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EDITORIAL.

THE present number completes the ninth volume of NEW REMEDIES, and in order to make room for the subject-index, eight additional pages have been added. The editors believe that they have spared no pains to render the journal as thoroughly practical and as valuable to its readers as the materials at their hands would permit, in which effort they have received the cordial support of the publishers and the kind assistance of numerous correspondents.

The increase in the number of advertisements, from eighty-four to one hundred pages with each number, shows sufficiently well the esteem in which the journal is held as a medium for reaching a large circle of readers, and we desire to call attention here to the mistake on the part of those who look upon such an increase of advertisements as opposed to the interests of subscribers. The fact that an increased income from advertising patronage enables the publishers to expend proportionately more upon the reading-matter of a journal is self-evident; but readers do not always appreciate, as they should, the value to them of an extensive variety of advertisements arranged and indexed in such form that reference can be made to them at any moment.

During the latter part of the year, it was considered best to omit the report of the New York Drug-market. This was done for the reason that a monthly report of this nature can be of no practical value to retail dealers. In place of such a report, the list of prices current has been amplified, and is now undergoing thorough revision. The adoption of signs to indicate the rise or fall of prices that may have taken place since previous quotation enables the reader to note at once the general tendency of the market, and the articles affected. This feature will be continued, and it is believed that the increased size of the list will amply compensate for the absence of the Market Report.

We tender our grateful acknowledgment of courtesies on the part of our editorial confrères, and desire to assure them that we have endeavored always to credit them with matters taken from their columns; omission to do so has always arisen from inadvertence, and has not been intentional.

Drug Store Fittings.

THE full-page illustration, which we publish with this number, is from a design by Mr. George W. Rich, of Chicago, published in *The Builder and Wood-Worker* of August last.

Although capable of execution in almost any kind of wood, its author recommends mahogany, with the arched moulding at the top veneered in satin wood, and with the ornamentation cut through to show a ground-work of mahogany. The columns may be veneered with satin wood, but would look well if made of walnut. The arch would look well veneered with button burl, to be cut the same as the satin-wood, then ebonized. The columns might be made of Tennesee marble or of wood veneered with butternut burl, with the beads, moulding, and turnings ebonized. The back portion is to have three openings: one at each side of the prescription counter and one directly behind it. The panels are of figured glass, and at the top, for purposes of ventilation, there are panels of fret-work. A section of the shelving and drawers is also represented.

Saxoline.

A SUB-COMMITTEE of the Committee of Revision and Publication of the Pharmacopœia of the U. S has decided to recommend the introduction into the U. S. Pharm., of petroleum ointment under the name *Saxolinum*.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

[Original Communication.]

SOLUTION OF AMMONIUM ACETATE.

BY R. ROTHER.

In a paper published under a pseudonym in 1873, the writer argued in favor of a more concentrated solution of acetate of ammonium than the one officially directed.

But the proposition was not advanced with a view to supplant the weak and unstable official article by a denser form. The suggestion consisted only in the employment of a stronger and less changeable solution for the extemporaneous preparation of the official one.

At the present time, however, the writer, whilst recommending further improvements in the production of the concentrated solution, especially insists upon the necessity for altogether discarding the official solution and adopting the concentrated one instead. The excessively dilute forms of medicinal solutions are rapidly becoming obsolete, as examples witness the disuse into which decoctions, infusions, and even medicated waters have fallen, also note the growing advance in foreign methods of prescribing, which diffuse system is also assuming a more contracted form. The final and almost invariably necessary dilution of medicines immediately preceding or succeeding their administration has by preference become universally in vogue. As a consequence, modern prescribers, by force of habit through the constant use of greater concentrations, unconsciously ignore the weaker forms to such an extent that even in cases where they are by necessity restricted to their use, they treat them in the sense of stronger solutions. This accounts for the manner in which physicians prescribe the solution of acetate ammonium, instead of in ounces they give it by drachms. The habit in this case would therefore make the transition not only easy, but actually imperative. Hence the writer suggests that the proposed concentration, or one at least half that strength, be officially adopted. The medium official dose is one fluid ounce which contains 26 grains of ammonium acetate and a modicum of carbonic oxide (not carbonous oxide, formerly called carbonic oxide). The universal habit of giving the official solution in drachm doses shows that the carbonic oxide it is supposed to contain is considered by no one, as even the small amount of it contained in a fluid ounce is reduced to the vanishing point when contemplated in the fluid drachm, especially after admixture with spirituous compounds, as it is nearly always given.

In reference to its preparation, the writer will now add that even the best official acetic acid is never free from pyrogenous products, that it is invariably under strength, and that in its use some evaporation must be incurred even if the acid is full strength, since the ammonium carbonate increases the volume by about one-sixth of a fluid ounce for each troy ounce of the salt added. The empyreuma present in the acid imparts, aside from its objectionable flavor, a yellow collor to the solution which soon after deposits a brownish sediment. Now in view of the fact that some evaporation, however little, is necessary, and particularly that no official acetic acid is exactly suitable, but especially since glacial acetic acid can be readily had free from these objections, the writer therefore proposes to prepare the solution upon a new plan by the use of ammonium carbonate (which now also can be had free from empyreuma), glacial acetic acid and water, obtaining thereby a colorless solution without the aid of heat. Glacial acetic acid, however otherwise pure, is also rarely of full strength, ordinarily it should contain 98 to 99% of real acid, but the writer has found some containing no more than 85%. This, however, is no great objection in the case, it is only paying indirectly more for an article by getting it short weight, it is simply a breach of contract on the part of the manufacturer, but nevertheless a serious offense. The ammonium carbonate is much more definite, and when selecting the translucent lumps can be safely used as the basis of operations, by employing this in fixed amount and adding the acid to saturation. But to attain still greater accuracy, the bicarbonate (monammonic carbonate) can be used in equivalent proportion. By suffering a slight loss, the ordinary carbonate is converted into bicarbonate by exposing it in small fragments to the open air; a sufficient quantity can most usually be obtained as the so-called waste accumulated on the bottoms of the jars containing the ordinary salt. 4 troy ounces of the ordinary equals 5 troy ounces 2 drachms and 50 grains of the bicarbonate.

The following is the formula for 12 fluid ounces of a solutions 8 times the official strength.

Take of

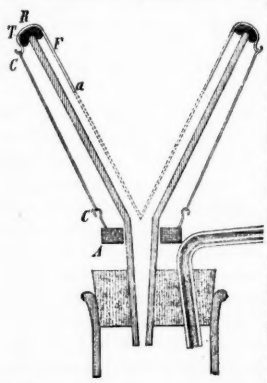
Ammonium carbonate, translucent....4 troy oz.
Glacial acetic acid....4¼ troy oz. or sufficient.
Water.....sufficient.

Dilute the acid with its volume of water and add the carbonate in small fragments, gradually at first, and aid the combination by frequent stirring. When effervescence has ceased or nearly ceased, and undissolved portions remain, decant the solution and on the residue pour sufficient water to dissolve it, then add acid to the solution until effervescence ceases or until the liquid is slightly acid. Unite this solution with the first and then add water to measure of 12 fluid ounces and mix. The solution should have a faint acid reaction.

Detroit, Michigan.

Mollin's Rapid Filter.

MR. JEAN DE MOLLIN proposes an arrangement, illustrated by the accompanying cut, for rapid filtration, which has the advantage that the filtering surface is much larger than is usually the case. F is a funnel made of tinned iron, which is perforated with small holes from the point up to the height *a*. Its upper margin is curved over and provided with 12 hooks *C*. The funnel is put upon a glass funnel over the edge of which a piece of rubber tubing is placed.



The glass funnel having been introduced into the flask through the ring *A*, the tin funnel is tightly pressed upon the rubber packing by means of cords tied between the hooks *C*, and 6 similar hooks attached to the ring *A*. The filter is now put in the funnel, and the flask connected with the vacuum-pump.—*Zeitschr. f. Analyt. Chemie*, 1880, 334.

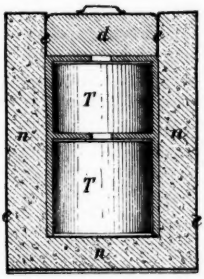
To the above is attached a note by Dr. W. Fresenius, to the effect that funnels of lead or platinum would be far preferable to tinned iron. Or else Gooch's platinum cone filter (see NEW REM., 1878, 290) might answer the same purpose. [Parchment paper would probably answer likewise.—ED. N. R.]

Determination of Ammonia in Gas-Liquor.

THE direct titration of the ammoniacal gas-liquor, by which only the free and the carbonated ammonia is determined, generally yields figures which are too low, while its previous distillation with lime usually produces the opposite result, owing to the fact that some cyanogen present is decomposed and partly converted into ammonia which is titrated with the other. W. Foster uses the apparatus illustrated in the cut for making such determinations, with exclusion of the above errors by means of hypobromite of sodium: $2NH_3 + 3NaBrO = N_2 + 3NaBr + 3H_2O$. One gm. of bromine is added to solution of 1 gm. of soda in 10 cc. of water, the whole shaken and then transferred to the flask *A*. The ammoniacal liquid to be assayed is contained in the smaller glass-vessel *a*. The measuring cylinder *B* is then dipped into the water contained in the reservoir *B* to such a depth that the water inside and outside stands at zero, when the pinch-cock *O* is closed, and, provided the apparatus is perfectly air-tight, the contents of the small vessel *a* gradually and in small portions mixed with the reagent. When the reaction is over, the flask *A* is gently warmed to drive out all nitrogen. After the apparatus has again cooled to the usual temperature, the volume of the eliminated nitrogen is read off. In calculating the results for ammonia, an addition of 4% must be made as a correction.—*Die Chem. Industrie*, 1880, 287.

Apparatus for Preserving Liquids and Solids in a Hot Condition without Fire.

A VERY useful apparatus, which is an improvement of the so-called "Norwegian Kitchen" (exhibited at the Paris Exhibition in 1867), is represented in the accompanying cut. The inventor is R. Meyn in Karlshütte, near Rendsburg.



It simply consists of a cylindrical box of tinned iron, or sheet tin, with double walls, *e e*, the interval being filled with any bad conductor of heat, *n*. When the apparatus is to be put to use, the material to be kept hot—say a meal—is heated to boiling for 5 or 10 minutes, in the pots *T* and *T*, which are then set into the apparatus, covered with the double-walled lid *d*, and the whole is then set aside until it is wanted. If the meal had not been cooked before, it will be found that meat will be "done" in such an apparatus in about 3 hours, barley and rice in 3 to 4 hours; beans, lentils, and peas in about 5 hours; fresh vegetables in 2 to 2½ hours; and potatoes in 1 hour. Of course the materials may be left in the apparatus much longer, and the supper may be thus already prepared in the morning.—*Dingler's Polyt. Journ.*, 237, 372.

[This apparatus may likewise be used in pharmaceutical operations, where protracted digestion is necessary.]

Benzoate of Sodium in Gonorrhœal Ophthalmia.—A DR. DOE used a 20% solution of benzoate of sodium and a 10% solution of tannin in the treatment of gonorrhœal ophthalmia with the result of recovery in a "few" days without resulting opacity. As, however, he employed also ice-compresses constantly during the treatment, and as the latter is one of the most powerful means for relieving intense ophthalmia, it is still to be doubted whether his patients might not have done just as well if he had omitted the benzoate altogether.

[ORIGINAL COMMUNICATION.]

MORPHIOMETRIC METHODS WITH OPIUM.

BY ALBERT B. PRESCOTT AND JOSEPH F. GEISLER.

COMPARATIVE trials were made with four definite processes, and most of the results were subjected to test by the volumetric estimation with iodomercurate (Mayer's solution). Each process was tried with the same opiums; at first four specimens of opium being worked. Three of the specimens were "gum opium," dried at 100° C., and then powdered, and one was "powdered opium," dried at the same temperature. The dried powders were securely stoppered, to avoid acquisition of moisture. The morphiometric methods tested were the following:

I. Hager-Jacobsen's process, as modified by A. B. Prescott*: A lime solution treated with ammonium chloride (Mohr's plan); washing and dilution avoided by taking a definite volume of the filtrate to represent an aliquot part of the opium treated; the opium freed from most of its wax and uncombined narcotina by treatment with benzol, and the crystallized morphia purified by treatment with a little water-washed ether; the crystallization promoted by adding a little ether and benzol; the assay can be done in six to eight hours; the directions are given in full, in the paper, by one of us, to be found by the reference just given, and need not be here repeated. The freshly-slaked lime and water-washed ether were newly prepared for each assay.

II. Flückiger's lately proposed process.† Of the dried and powdered opium, *eight grams* are repeatedly extracted with strong ether. The powder, freed from ether by exposure to the air, is wetted with 80 grams of water in a closed flask, and frequently shaken during twenty-four hours. The mixture is then poured upon a plaited filter of 12.5 centimeters diameter. Of the filtrate, which measures 65 to 68 cubic centimeters, 42.5 grams (representing one-half of the water and one-half of the soluble matter which has been dissolved out of the eight grams of opium) are transferred to a tared flask, of a capacity not over 100 cubic centimeters; then 12 grams of alcohol of specific gravity of 0.815 at 15° C., and 10 grams of ether are added (the solution not being made turbid). Now 1.5 grams of water of ammonia are added, and the contents agitated, when a colorless, ethereal layer separates. The flask is now securely closed and set aside for twenty-four hours. A small, double-plaited filter of ten centimeters diameter is then moistened with a mixture of alcohol and ether of the above-named proportions, and upon it are emptied the contents of the flask, in which the adhering crystals have been previously detached by agitation. When the mother-liquid has passed through, the crystals are washed with 10 grams of ether-alcohol (made as above described), and finally with 10 grams of pure ether. They are then removed from the filter back to the flask in which they are dried (at 100° C.), and weighed.* The weight of the crystals represents the morphia, $C_{17}H_{19}NO_3H_2O$, in *four grams* of the opium.

The most notable feature in this process is the large proportion of alcohol in the mother-liquid, together with the presence of an excess of ether. Dilution from washing the opium powder is avoided, as in Hager-Jacobsen's process, by taking a definite part of the filtrate to represent an aliquot part of the opium taken. The opium is first freed from narcotina and some waxy matters by liberal treatment with ether, and the crystals are courageously washed with ether-alcohol, and then with pure ether, no correction being named for waste in this washing. About fifty hours are taken in carrying out this process.

III. The well-known process of Staples' (essentially that of the U. S. Ph. preparation of morphia) was carried out as follows: the quantities were adapted for comparison with method IV.; the preliminary treatment with benzol was omitted.

Of the powdered opium, dried at 100° C., 6.5 grams are macerated with 65 cubic centimeters water for twelve hours. Evaporate the mixture to fifteen cubic centimeters, mix with an equal bulk of alcohol of specific gravity 0.835, filter through a small filter, and wash with a little dilute alcohol. Mix 3 cubic centimeters of water of ammonia (of specific gravity 0.960) with 7 cubic centimeters of alcohol (specific gravity 0.835); add one-half of this mixture to the alcoholic solution of opium, with agitation in a test-tube or flask; allow the mixture to stand six hours; then add the remainder of the alcoholic ammonia, and set aside for twenty-four hours. Detach the crystalline deposit from the interior of the glass vessel, and pour the contents on a small tared filter, then washing, first with diluted alcohol, and then with water. Dry the filter and its contents; wash with several portions of

* As proposed for the U. S. Ph., *Am. Pharm. Assoc. Proceedings*, xxvi. (1878), 807; Report on the Revision of the Pharmacopœia, by Charles Rice, Chairman, 1880, page 102; NEW REMEDIES, viii., 69, 103; *Pharm. Journ. and Trans.*, London, [3] x., 128, Aug. 16, 1879; *Journ. Chem. Soc.*, London, 1880; Abstracts, 191; *Jahresbericht für Pharmacie*, 1878.

† *Germ. Pharm. Rep.;* Report on the Revision of the Pharmacopœia, by Charles Rice, p. 103; *Zeitschrift für analyt. Chemie*, xxix. (1880), 118.; *Pharm. Ztg.*, xxiv., 432.

* There is some loss of the crystals, by adhering to the filter. This loss was determined, in Nos. 1, 2, 3, 4, by digesting the filters (after the crystals had been removed), with dilute sulphuric acid, and titrating the resulting liquids with Mayer's solutions. The quantities of morphia indicated were, respectively, 0.016, 0.012, 0.020, and 0.010 grams. The average loss of morphia indicated was, therefore, about 0.35 per cent of the opium.

[water-washed] ether; dry at 100° C., and weigh. The morphia obtained represents 6.5 grams of opium. About forty-two hours are taken for this method.

A modification of this process was devised, with the desire (1), to avoid the evaporation, which is tedious and injurious; (2), to avoid the washing, by taking a certain portion of the filtrate to represent an aliquot part of the opium.

IV. Staples' Process as modified in this investigation. Of the powdered opium, dried at 100° C., 6.5 grams are treated with 50 cubic centimeters of benzol, in a paper filter of 10 centimeters diameter, first macerating one hour, and then percolating with the remainder of the benzol. Dry at a gentle heat till the odor of benzol disappears. [This treatment with benzol was omitted with Nos. 1 and 2, but used with Nos. 3 and 4.] Transfer the powder to an exactly weighed flask (or test-tube) of not over 100 cubic centimeters capacity, and add distilled water enough to make the contents of the flask weigh 71.5 grams; agitate thoroughly, cork the flask and set it aside for twelve hours. Filter through a small filter into an exactly weighed test-tube of about 90 cubic centimeters capacity, and previously marked to the volume of 50 cubic centimeters, receiving only just to this mark. Add 10 cubic centimeters of alcohol (sp. gr. 0.835). Then add one-half of a mixture of 3 cubic centimeters of water of ammonia, of specific gravity of 0.960 and 7 cubic centimeters of alcohol (spec. gr. 0.835), and, after corking the tube, set aside for six hours in a cool place; then add the remainder of the mixture and set aside twenty-four hours. Detach the crystalline deposit, let it settle, and carefully decant the supernatant liquid upon a small filter. The crystals in the flask are now washed with a mixture of 5 cubic centimeters of alcohol (sp. gr. 0.835) and 5 cubic centimeters of water; the washings being decanted upon the filter. In the same way wash all the crystals with 3 cubic centimeters of water; drain and dry them; and wash them with 10 cubic centimeters of water-washed ether. Transfer the crystals from the filter to the flask, dry at 100° C., cool and weigh. The resulting morphia represents 5 grams of the opium.

The chief results of our work may be tabulated as follows:

A. Percentages of crude morphia, as weighed.

		No. 1	No. 2	No. 3	No. 4	Mean.
Method I..	Hager-Jacobsen's as modified	12.86	14.09	15.08	12.60	13.65
" II.	Flückiger's...	12.13	10.76	8.51	7.17	9.39
" III	Staples'.....	*	11.81	10.84	12.01	11.55
" IV.	Staples', as modified....	11.27	12.25	11.37	10.61	11.37

* The first crop of crystals, from No. 1 in Method III., at the end of the twenty-four hours, gave only 7.40%. Setting aside for twenty-four hours longer, a crop of crystals was obtained, and these, extracted with amyl alcohol, the residue washed with benzol, and then dissolved and titrated with Mayer's solution, gave an indication furnishing in all 9.12% of morphia.

* The first crop of crystals already referred to furnished only 5.66% morphia, by Mayer's estimation.

By far the whitest and largest crystals were obtained in Method II.; and the crystals by Methods III. and IV. were whiter and better than those by Method I. These were small and strongly colored and left a perceptible residue insoluble in sulphuric acid. But to obtain a more exact measure of the purity of the crystals, they were subjected to volumetric estimation, with Mayer's solution. The crystals were dissolved in sulphuric acidulated water, and the solution titrated with Mayer's solution, finding the end reaction by taking a drop or two of the solution, upon a glass plate over a black paper, and adding a drop from the burette, when, if a precipitate occurred, it was washed back and the trial repeated.

B. Percentages by Volumetric Estimation of the Crude Morphia.

	No. 1	No. 2.	No. 3	No. 4	Mean
Method I.....	9.20	10.20	11.76	8.03	9.79
" II.....	8.70	7.70	7.40	5.75	7.39
" III.....	*	8.92	8.00	8.31	8.41
" IV.....	8.00	7.76	8.40	8.40	8.14

C. Purity of the Crystals, in Percentage of Absolute Morphia, as indicated by the ratio of Volumetric to Gravimetric yield.

	No. 1	No 2	No. 3	No. 4	Mean
Method I.....	71.2	72.3	78.0	63.7	71.3
" II.....	72.2	71.6	85.8	80.2	77.4
" III.....	75.6	75 5	73.8	69 2	73.5
" IV.....	71.0	63.4	73.9	79.2	71.9

To make another comparison between Method II. (Flückiger's), and Method IV. (Staples', modified by taking only a definite part of the filtrate), both of these processes were again tried, taking the same opium for both, sample No. 5. In each process, the same quantity, 6.5 grams of opium, were used. Of the filtrate from the opium in Method IV., 42.5 grams were taken, the same as in Method II., instead of a certain volume as before stated. To further learn as to the variability of results, in both methods, the liquids were divided before crystallization, into two equal portions and the two determinations were separately completed, obtaining four final results.

In both methods, after the prescribed crystallization, the mother liquids were treated with a little more water of ammonia, 0.25 cc., and put aside for twenty-four hours longer, when the additional crystals were separately determined, as noted below.

D. Additional Comparison of Methods II. and IV., in percentages.

		No. 5a.	No. 5aa	No. 5b.	No. 5bb.	Mean.
II..	Crude morphia	10.24	9.16	9.28	9.16	9.46
	Second crop crystals....	0.98	.....	1.13	1.04	1.05
	Total crystals	11.22	.....	10.41	10.20	.....
IV..	Crude morphia	7.69	8.29	8.27	9.27	8.38
	Second crop crystals.....	0.46	1.29	0.98	.....	0.91
	Total crystals	8.15	9.58	9.25	.....	.....

As to the morphia remaining uncrystallized in the mother-liquors, some work was done in continuation of that reported by one of us to the American Pharmaceutical Association in 1878.* After removing all alcohol and ether from the filtrates, by evaporation, an extraction was made by amyl alcohol, this solvent evaporated, and the residue taken up by sulphuric acidulated water, when volumetric estimation was done by Mayer's solution. With opium No. 3, the alkaline mother-liquor, after removing alcohol, was washed with benzol, before extraction with amyl alcohol. But in all the cases, the results were too high to be credible as indications of morphia or of alkaloids. As suggested by Dragendorff, who reported † this plan of finding the wastages, and as inferred by one of us,‡ the amyl alcohol extract of opium contains substances not alkaloids which precipitate the iodomercurate solution. A much safer though necessarily incomplete way of finding uncrystallized morphia is to add a little more ammonia and set aside for another crop, and this seems to be all we can do at present.

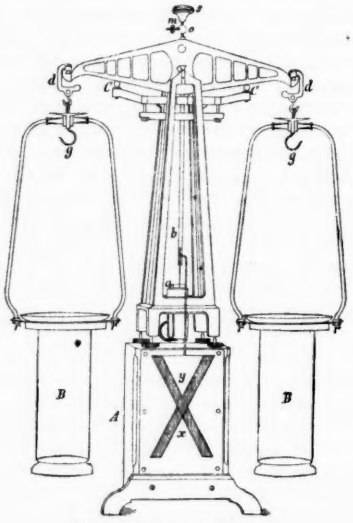
As to the variations in the results—the overweights by Method I., and the underweights by the other methods—and as to the best choice of methods, we forbear to enter upon discussion in this report.

University of Michigan, School of Pharmacy,
ANN ARBOR, Nov. 9th, 1880.

Analytical and Experimental Balance for Use in Lectures.

WE have received from Mr. Alb. Ruprecht (Wien, IV., Favoritenstrasse, No. 25) drawings and descriptions of his new balance, which is specially constructed for illustrating lectures, where it is important that the swinging or deviation of the index of the balance should be seen at a considerable distance.

The balance differs in certain respects from those previously in use. When it is to be used for analytical purposes, and not for lectures, the balance may be set directly upon a table, and in place of the long glass cylinders *BB*, ordinary scale pans are used. The index *b* in this case ends at the point, near *a*, and does not carry the prolongation shown in the cut. As will be seen, the index-needle *b* passes through a stirrup *C*, instead of being placed on the outside. When the balance is to be used for lecturing purposes, it is placed upon a wooden stand *A*, having three bearings. Upon the front side of this stand or box, which is that facing the audience, a piece of white paper with a black triangle ▲ drawn upon it is fastened. The index-needle is connected with a prolongation (see cut) bearing at its lower end a triangular piece of white paper, the outer edge of which is



Ruprecht's Lecture Balance.

marked with a black outline of the letter **V**, corresponding to the upper half of the letter **X** upon the box. When the balance is in equilibrium, the figures coincide, and the figure visible to the audience will be a black, bold, and clearly distinguishable **X**. The slightest disturbance of the equilibrium, so slight that it would scarcely be noticed at the index-needle, becomes at once most plainly visible, even at a distance, by a distortion of the letter **X**. Equilibrium is regulated by means of as mall brass ball *o*, bored eccentrically, and bearing besides a movable screw *m*. Rough adjustment is accomplished by turning *o*, and fine adjustment by means of *m*. The two glass-cylinders *BB* may be applied either upside down, as shown in the cut, for illustrating the different weight of gases, etc., or else turned the other way. The disturbance of the centre of gravity by the attachment of a prolongation to the index-needle is counteracted by turning the screw S upwards.

* Proceedings, Vol. XXVI., page 813.
† Werthbestimmung, 92.
‡ Proceedings Am. Phar. Asso., XXVI. (1878), 818.

[ORIGINAL COMMUNICATION.]

HISTORICAL NOTES ON ALCOHOL.

BY PROF. JAMES F. BABCOCK, BOSTON.

ETYMOLOGY.—The word *alcohol* is probably of Arabic origin, and was first applied as a generic term to all bodies in a state of minute division. Avicenna (980–1036) and other early writers used the word in reference to the native sulphide of antimony, which, in a state of fine powder, was applied to the eyelids as a cosmetic by the women of the East. Lemery, in his *Cours de Chymie*, published in 1698, used the verb "to alcoholize," to indicate the reduction of a body to an impalpable powder.*

Among the alchemists the name was applied to any subtle essence, and Raymond Lully (1235–1315) employed it to indicate the volatile portion of wine (*alcohol vini*); in the modern nomenclature alcohol has been substituted for the more common expression—spirit of wine.

PRODUCTION.—Fermented liquors were known in the most remote ages of antiquity (*Genesis* ix.; *Odyssey* ix.–xxi.), but alcohol in a more or less pure state could not have been produced until the invention of the art of distillation. There is no evidence that the Greeks or Romans* were acquainted with this process.

Pliny in his Natural History, although he gives a very complete account of wine, makes no mention of distillation or of alcohol. It is believed, however, that Eastern nations produced it, long before the art of distillation became known to the Western world. Morewood (*Essay on Inebriating Liquors*), makes a statement to this effect in regard to the Chinese, and Ramée (*Histoire des Inventions*) declares that a knowledge of arrack has been possessed by the people of India from the times of the invasion of that country by Alexander the Great, about 330 B.C.†

* In the old Testament already (Ezek. 23, 40; 2 Kings 9, 30; Jer. 4, 30) we find the verb כָּחַל, *kachal*, with the meaning "to blacken" or "to dye," namely: the eyes (עֵינַיִם), or the edges of the eyes, or the eye-lashes, for the purpose of heightening their expression. The same triliteral root passes through other Semitic languages; so the Arabic has the verb *kahala*, which has the same meaning. The substance thus used for dying the eyes is called in Arabic *kuh'l* (the Talmud calls it כּוֹחַל kôchal, or כָּחַל kochal, or כּוֹחֲלָא, kôchelâ'; the biblical Hebrew has no term), which has always been translated with "native sulphide of antimony," equivalent in meaning to the Greek στίμμι, the latin *stibium*, etc. But it seems that this translation of *kuh'l* has not always been correct, for it was also applied to native sulphide of lead used for the same purpose (see the authority quoted by *R. Dozy, Supplément aux Dictionnaires Arabes*, II., 446). Later on, the verb *kahala* (in the 1st, 2d and 3d conjugations) acquired the meaning "to blind somebody by introducing between his eyelids a pointed silver instrument (called *mîl*), heated red-hot." Incidentally it may be stated that this method of blinding is said to be painless and to leave no mark (see Quatremère in *Journ. As.* (1836), II., 357, and in his *Notices et Extraits*, XIV., 1, 49). The silver instrument *mîl* was ordinarily used to apply the *kuh'l* to the eyes. The native sulphide of antimony (or of lead) had naturally to be reduced to a very fine condition to fit it for its uses. This might have been, and probably was done in olden times, by levigation, but later on it was done by *sublimation*, for which already Paracelsus gives explicit directions, and in regard to which *Guilelmus Johnson(us)* in his *Lexicon Chymicum* (Lond., 1657, p. 14) says: "Sed ejusmodi sublimatio fieri debet igni admodum temperato, ut antimonii pulvis minime liquescat, ascendat nihilominus, ut farinæ flos parietibus adhærere cernitur molendinorum."—"But such a sublimation must be conducted with a very moderate heat, so that the antimonial powder fuse but a trifle, and nevertheless rise in vapor, just as flour-dust is seen to adhere to the walls of a mill." The further application of the latinized verb *alcoholisare* to denote the operation "to reduce to a very fine powder," and in general "to sublime" and "to distil" follows from the above. From the operation itself, the name was afterwards applied to special products of distillation, and finally to our "alcohol."—ED. N. R.

* Yet it appears that *crude* methods of distillation have been known to them, which were improved and perfected already during the first centuries of our era. A very full inquiry into this question, with references to authorities, will be found in *Kopp* (*Dr. Hermann*), *Beiträge zur Geschichte der Chemie* (Braunschweig, 1869), p. 218, etc.

† This statement is probably based upon the report of Megasthenes in *Strabo*, 15, 1, 53, that they "do not drink wine, except during sacrifices; but that they drink a liquid prepared from rice (ἀπ' ὀρύζης)," which is now known under the name of arrack. Yet we have much earlier accounts of spirituous liquids among the Hindus. It is well known that the ancient literature of the Hindus, or the Vedas, as we now possess them, date back to a very remote period, and—in the case of the Rigveda—may be placed at about 1,000 years before our era. This literature has come down to our days unaltered and without a gap, by a most elaborate system of memorizing and verbal transmission, the like of which is not found among any other people on the face of the earth. All the Vedic texts are full of allusions to fermented or spirituous liquids, and a considerable portion of them are devoted to hymns and praises extolling their virtues. While there is no positive term, in the Vedic language, to denote "distilling," or "distilled liquid," yet that such existed may be inferred from collateral circumstances, among which is the fact that the very same terms used in the Vedas are, in later times, undoubtedly applied to distilled liquids. Several kinds of intoxicating beverages are mentioned by the Vedas, the principal of which are *Soma* and *Surâ*. The former is by far the most important, but it is not a distilled liquor. However, a short account of its character and mode of preparation may not prove uninteresting here. *Soma* is a name for the fermented juice of a plant, also called *soma*, the identity of which has not as yet been fully established. At present, the Hindus use under this name a lactiferous species of *Sarcostemma*, but the liquid obtained therefrom is merely used in sacrificial rites (though these are fast dying out), and not as a beverage. The *soma* of ancient times was a different plant, not always and everywhere obtainable, for which reason the ancient ritual already permitted the substitution, for sacrificial purposes, of certain other more accessible plants, in case the true *soma* could not be obtained. According to the various accounts scattered through the Vedic literature, the *soma* drink was thus prepared. The stems and shoots of the *soma*-plant (which grew on mountains) were cut off, put into water to cause them to swell up, and then subjected to pressure in a very primitive press (*chamû*). A cow-hide was spread upon the ground, a board placed on it, and the swelled *soma*-stems, etc., put upon this. On top was placed another board, and the latter struck with stones swung by the hand, so that

Although Geber (8th Cent.), Rhazes (10th Cent.), Albucasis and Avicenna (11th Cent.), refer to various processes of distillation (especially of perfumed waters), there is no express mention, in any of their writings, of the distillation of wine, or the production of alcohol.

Rhazes directs a nameless substance (*occultum*) to be bruised, submitted to fermentation and distilled; he states that the product if redistilled from ashes (carbonate of potassium) or quicklime is rendered stronger. Hoefer (*Histoire de la Chimie*) believes this to be a reference to alcohol.

The English, shortly after the invasion of Ireland by Henry II., about 1172, found the people of that country addicted to the use of *uisge beatha** (whiskey).

The earliest writer who refers directly to alcohol is Arnauld de Villeneuve (1235–1319). In his work *De Vinis*, it is stated that certain kings added alcohol to their wines to give them different qualities, thus showing that this product was well known in his time. Arnauld is said to have been the first to produce medicated tinctures and to bring them into use as remedial agents.

Marcus Græcus and Thaddeus the Florentine (13th Cent.) described the distillation of *aqua ardens* from strong wines, while the latter, according to Fourcroy, pointed out the uses of alcohol in medicine.

Raymond Lully, the pupil of Arnauld, styled alcohol the supreme cordial of the human body (*quinta essentia*). He believed it to be a universal panacea, which had the virtue of prolonging life and renewing youth—hence the names, *aqua vitæ, eau-de-vie, etc.* Lully, in his *Testamentum Novissimum*, gave the name *alcohol* to concentrated spirit of wine, and distilled it from carbonate of potassium to remove water.

Ortholain, in a work on alchemy written about 1358, devotes a chapter to the distillation of wine and the preparation of alcohol of different degrees of concentration. He directs the distillate from white or red wine to be collected in four separate portions; the first portion he declares to be much stronger than the two following, while the fourth is valueless. This is probably the earliest mention of the process of fractional distillation.

An ordinance of Frankfort, in 1360, in relation to alcohol, proves that, at this time, it was well known and used in the pharmacies.

In 1387, Charles the Bad, King of Navarre, died from injuries received in consequence of the accidental ignition of the *eau-de-vie* with which his physicians had directed him to be bathed.

Paracelsus (1493–1541) greatly extolled the virtues of alcohol, and still further extended its use as a medicament.

Libavius (1560–1616) first clearly described the method of obtaining alcohol from fermented grains and starchy substances.

In the latter half of the fourteenth century the use of diluted alcohol as a cordial was common

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the juice ran upon the cow-hide below. The turbid reddish (*aruna*) or brown (*babhru*) juice, often still mixed with fibres, was poured from the hide into a vessel (*amatra*), whence it was poured through a sieve or strainer (*pavitra*) woven or knit from sheep's wool. The purified juice then flowed into a wooden tub, also standing on a cow-hide. Finally it was mixed with fresh milk, which imparted to it an inviting color, or, instead of it, a decoction of barley or of other grain was added to it.

The intoxicating effects of *soma* are frequently pictured in a characteristic, sometimes drastic and grotesque, at other times enthusiastic manner. Tipsiness and drunkenness is even classified into different grades, in a passage of the Atharva-veda, namely, that in which the drunkard's hair hangs down loose, that in which it is tangled up, and that in which the drunkard becomes a laughing-stock for others.

The Vedas also mention a liquor under the name of *Surâ*. It is not known what this was prepared of in ancient times, though it was probably prepared from some kind of grain, possibly from rice, though this is not even mentioned by name in the Rigveda, and does not seem to have been known at that period to the Hindus. According to *Manu's* Code of Laws (11, 94) there were 3 kinds, made from molasses, from flour, and from honey, and, in his time (or rather at the time from which the constitution of the text of his work dates, which is uncertain), no member of the upper three castes was permitted to partake of it without losing caste. According to the *Madanapâla-Nighantu* (13th century A.D.), it was made from rice or flour (p. 96, Calcutta edit.). The *Bhâvaprakâça* (II., p. 58, Calc. edition) has the same statement. According to *Suçruta*, however, of whose work we have proof that it must have been in existence at least as early as 910 A.D., states (I., 48, p. 182, Calcutta ed. of 1873) that it was prepared either from barley (*yava*) or from [the flowers of] another plant which is supposed to be *Sanseviera Zeylanica* Roxb. It appears that the *surâ*, in Vedic times was a beverage used on ordinary days, while the *soma* was only used on solemn occasions. The preparation of the *surâ* had already in those times developed to a regular trade, for we find a "surâ-maker" mentioned in the white Yajur-Veda.—See *Zimmer, Altindisches Leben*, 281.

The Hindu Medical Treatises, among the sections devoted to Materia Medica generally, devote a chapter or so to *Madya*, which is the generic term for all spirituous liquors, whether distilled or not. The different works enumerate a large number of both fermented and distilled spirits, so that, by a full enumeration, the list given by *Dutt* in his *Materia Medica of the Hindus* (p. 272) might be considerably extended. Yet this is not the place for doing so. Only one very singular circumstance remains to be mentioned. *Suçruta* (l. c., p. 182) mentions one kind of spirituous liquid under the name *kohala*: "tridoshabhedy avrishyas cha *kohalo* vadanapriyah," "destructive of the three humors [bile, wind and phlegm] and causing impotence is *kohala*, [though] grateful to the mouth." This word *kohala*, denoting an *alcoholic* liquid, occurs only in medical works from and after Suçruta and in native glossaries. It does not seem to have a sound etymological basis in Sanskrit, and yet, on the other hand, it would be risking an anachronism to bring it in etymological connection with our *alcohol*. At all events, it is a curious coincidence — Ed. N. R.

* From the Irish *uisge* or *uisg*, "water," and *beatha*, "life," corresponding to the Latin *aqua vitæ*, French *eau-de-vie*, etc. The Gaelic form is *iskiebae*. The forms *usquebaugh* and *whiskey* are derived from the above.—Ed. N. R.

throughout Germany and Italy, although its mode of preparation was a secret; in the fifteenth century, the distillation of liquor from fermented grains became general in Germany, Denmark, Sweden, and Russia, and before the close of the sixteenth century, distilled spirit was a beverage in use in all the countries of Europe, particularly among the lower classes. The production of spirit from wheat, barley, and other cereals was prohibited by heavy penalties in 1595.

Sachs, a German chemist, in a work on the vine, published in Leipzig, in 1661, gives a full description of the processes in use at that period for concentrating alcohol; he recommends the addition of calcined alum to the wine before distillation as the best means of increasing the strength of the alcohol produced.

Kunckel (1638–1703) first studied the impurities accompanying alcohol as made by ordinary processes, and recommended as a method for their removal the dilution of the spirit with water and redistillation.

Lowitz, in 1796, and Richter, the same year, first prepared absolute alcohol, using for the purpose carbonate of potassium and chloride of calcium (*Crell's Annal.*, 1796, I., 195; 1796, II., 211).

Arnauld, Lully, Basil Valentine, and others had long before produced alcohol of a high degree of concentration, the latter especially, by the use of quicklime.

Distillatory apparatus was much improved by Porta, and described in his *De destillationibus, Lib.* ix., published in 1609.

Lefèvre in 1651, Glazer in 1663, Boerhaave in 1732, and Chaptal in 1780, in their writings suggested other improvements, both in the forms of the stills and in the condensing arrangements.

Edouard Adam, in 1801, patented a still by which spirit of 85° could be produced at a single distillation. Solimani of Nimes disputed with Adam the priority of this invention. Berard in 1805, Derosne in 1818, and Coffey in 1832, made still further improvements.

Quantitative Determination.—The earliest determination of the strengths of alcohol corresponding to different specific gravities was made by order of the British government for purposes of revenue. The experiments were made by Gilpin, and first published in 1790. They were afterwards twice repeated, and printed in the *Philosophical Transactions* for 1794. Tralles, in 1811, calculated tables giving the proportions of alcohol and water by volume (*Gilbert's Annalen*, XXXVIII., 386). Meissner, in 1816, calculated tables both by volume and weight.

Syke's hydrometer for estimating the strength of alcoholic liquids was invented about 1818. Gay-Lussac calculated his tables and devised the alcoholometer, which indicated percentages by volume, in 1824. Tabarie, in 1830, proposed the evaporation method for the quantitative estimation of alcohol (*Annales de Chem. et Phys.*, [2] XLV., 222). Fownes' alcohol tables were published in the *Philosophical Transactions* in 1847. Silbermann's method for the determination of alcohol by dilatation, and the process of Brossard-Vidal by the boiling point were described in 1848, in a report to the French Academy (*Comptes Rendus*, XXVII., 374, 418).

Composition and Combinations.—Lavoisier first indicated the general composition of alcohol in 1784. Its quantitative composition was definitely given by Saussure in 1813 (*Annales de Chimie*, LXXXIX., 273). In 1815, Gay-Lussac found that the vapor density of alcohol corresponded with the composition given by Saussure (*Annales de Chimie*, XCV., 311). Dumas and Boullay analyzed alcohol by means of oxide of copper in 1827 (*Annales de Chimie et Physique*, XXXVI., 294).

Bergmann, in 1798, proposed alcohol as a reagent to assist the formation of precipitates of salts less soluble in alcohol than in water.

Alcoholic fermentation was specially studied by Gay-Lussac in 1810. He showed that the formation of alcohol did not take place in the absence of air (*Annales de Chimie*, LXXVI., 245). Sömmering, in 1811, noticed that when weak alcohol was placed in a bladder and suspended, the water gradually evaporated, while the strength of the alcohol increased (*Sitzungsb. d. Akad. der Wiss. zu München*, 1811, 1814, 1820, 1824).

Brande and Gay-Lussac, 1811, 1813, showed that alcohol was a product of fermentation, which was merely separated by distillation, and not, as previously believed, in some way generated by the action of heat (*Phil. Trans.*, 1811, 1813; *Annales de Chimie*, LXXXV., 175).

Faraday, in 1820, obtained traces of alcohol by passing olefiant gas through sulphuric acid, a synthesis which was more fully examined and confirmed by Berthelot in 1855 (*Annales de Chimie et Physique*, [3] XLIII., 385).

Graham in 1828, discovered and studied the combinations of alcohol with various salts of calcium, magnesium, and zinc (*Edinb. Phil. Trans.*, XI., 182). Liebig's memorable researches on the derivatives of alcohol were made in the years 1832 and 1835. These led him to the discovery of several new and important bodies, among them chloroform, chloral, acetal, and aldehyde.

The general doctrine of the constitution of the members of the alcohol group was introduced into chemical science by Dumas and Peligot in 1835–36 (*Annales de Chimie et Physique*, [2] LVIII., 5; LXI., 193; LXII., 5).

Faraday, in 1845, exposed alcohol to a temperature of −160° F., and found that it did not congeal (*Phil. Transactions*, 1845, 158). In 1849, Frankland isolated the radical ethyl. In 1860, Lallemand, Perrin and Duroy, in a prize essay on the physiological study of alcohol, con

cluded that, taken into the body, it accumulates in the tissues, and is eliminated unchanged.*

[Original Communication.]

CHIAN TURPENTINE.

BY EDWARD S. KELLY.

During the past year, quite a demand has been created for this drug, due to Prof. John Clay's experiments. Some years ago Prof. Xavier Landerer called the attention of the medical profession to it for the treatment of cancer and urinary diseases. Much difficulty has been experienced by the writer in obtaining true Chian turpentine; the narration of which difficulties may be interesting to the readers of New Remedies. It has been purchased in various markets both at home and abroad: houses, considered reliable, offering that which was unquestionably spurious, but oftentimes for want of knowledge of the characteristics of the genuine article.

The first bottle came through a well-known house in New York, which obtained it in their market. This was a cloudy, streaked mixture, which became homogeneous on standing and cleared up somewhat; was quite fluid, having the odor of balsam of fir. Not satisfied with this, Prof. Clay was written to, and asked to send a sample of such as he had used. This proved to be a *solid* substance, breaking with a shining fracture; of an agreeable odor; easily made into a pill with the fingers; of a brown color, owing to the presence of impurities. Other samples obtained since have shown great differences, one was an excellent sample of Canada balsam, another answered the description of larch turpentine, which comes from the Island of Scio, and is the kind most commonly found in the market, is a fluid of a greenish-yellow tinge, piney odor, pleasant taste when first tasted, but soon develops an acrid sensation in the back of the mouth lasting for some time.

Another lot looked as though the maker had at some time seen the genuine, which he had imitated very well in color and consistence, but the odor and taste revealed its fictitious character. The amount of impurities in different samples is variable, ranging from 10% to 24% in those examined, while one not tested appeared very free from foreign matter. Like other turpentines, ether, alcohol, and bisulphide of carbon are solvents for it. If a lot were to be purchased by assay, it would be unsafe to judge of the impurities by the quantity found in the turpentine on top, for although quite a firm solid, the sand, etc., settles—as for instance in some which came in a tall tin can, the upper part contained 14% of impurities insoluble in ether, while lower down in the can the amount was 20%.

The peculiar odor of Chian turpentine serves to distinguish it from all others. The mastic-like odor is well defined in a lot just received from Scio direct; being this year's collection. It is brittle, brown, and very dirty, yielding, by recent analysis, no less than 24% of impurities (sand and bark). Dodge & Olcott, well-known importers in New York, obtained this for the writer. It is hoped that the increasing demand for this drug will lead the people of Scio to collect it with more care, as the purification is tedious and expensive.

Two preparations of this drug have generally been offered, viz., emulsion and pills. The first is a very good form for administration, aside from the ether, of which most persons would be likely to tire, as it is often necessary to continue its use for months. The pills have frequently been made with magnesia, which is objectionable, as it forms a kind of insoluble soap, and oftentimes the stomach is unable to digest them on this account. The writer prepared some in this way for a time, but having received complaints, made various experiments, and has used the following formula with good results: Chian turpentine, 3 grains; sulphur, 2 grains; dried carbonate of sodium, 1 grain; in each pill. Thus prepared the pills are generally quite soft, but harden somewhat by allowing them to remain in powdered lycopodium. The dried carbonate of sodium, being alkaline, helps the solution of the resin. At the suggestion of a physician, a trituration with sulphur and sugar of milk has been prepared which is not open to the same objections as the emulsion or pills; but is in a most elegant form for administration, as it can be mixed with water, milk, wine, or taken clear upon the tongue; the sulphur being tasteless and the sugar of milk only slightly sweet. The particles of the turpentine are minutely subdivided and give the stomach a better chance to act upon it. Physicians already know very well that triturations are among the most potent forms for giving medicines.

A paint for applying to cancer of the uterus has been recommended to exclude the air; this can be prepared from purified turpentine by dissolving it in a small quantity of ether.

Boston, Mass., Nov., 1880.

Notes on Chian Turpentine.

Prof. Flückiger, writing to the *Pharmaceutical Journal*, in regard to Chian turpentine, says that it is not at all probable that a good and regular supply of it can be obtained from Chio. The island has never produced it largely.

Pistacia Terebinthus being distributed over a very wide area, could well be laid under contribution from other countries. The best plan would, perhaps, be to go to Algeria, where in the forests this terebinth may be found very frequently, either mixed with oaks and lentisks, or in clumps in groves. The trees grow to the

* Further details on the History of Alcohol may be found in *Kopp (Dr. Hermann), Geschichte der Chemie*, IV, 273.

height of fifty feet, and to a circumference of more than six feet, and attain great age.

M. A. Mathieu, Conservator of Forests, and Professor in the French School of Forestry at Nantes, writes in the *Flore Forestière*, 3d Ed., 1877, p. 72: "Tears of a white and very fragrant turpentine exuded from the bark of *Pistacia Terebinthus*; in the hot season they are flowing out in such an abundance that it sometimes becomes difficult to enjoy the shade of the tree." The tears soon solidify. The rosin is then termed in Algeria "lik" or "alk," meaning lacker. It is very similar to the "mastick of Scio or Chio." A large terebinth tree will yield from seven to fourteen ounces annually. . . . It may fairly be presumed that the Algerian resin is identical with that originally collected in the island of Chio.

The authors of "Pharmacographia" are of the opinion that another kind of terebinth, *Pistacia Atlantica* Desfontaines, growing to a large size all over Northern Africa, is but a variety of *Pistacia Terebinthus*, but Mathieu considers them to be distinct trees. However this may be, he further says that *Pistacia Atlantica* also furnishes an abundance of the same turpentine as the genuine *Pistacia Terebinthus*. We may suppose that the supply of the products under notice might be largely increased by systematically puncturing the bark.

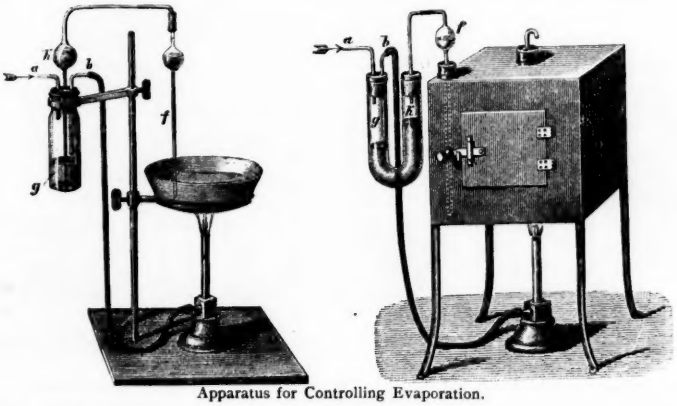
There is thus a possibility of procuring any quantity of Chio turpentine at a moderate rate, in order to enable the medical profession to settle the question as to the real merits of this old drug.

Apparatus for preventing Evaporation beyond a certain Limit.

An apparatus which was proposed some years ago by E. Geyer, to prevent the evaporation of liquids beyond a certain limit, has lately been modified and improved by Max Süss, and described in the *Zeitschrift f. Analytische Chemie* (1880, 312).

The accompanying illustration requires but little explanation. To set the apparatus in action, the tube *b* is closed by pinching, some of the water in *g* is made to rise into *K* by blowing in at *a*, and at the same time the tube *f* (empty) is dipped into the liquid in the capsule. On removing the pressure from *b*, some of the liquid in the capsule will rise in the tube *f*. The gas required for heating the capsule is made to pass through *a* and through *b* to the burner. As soon as the evaporation has proceeded far enough to disengage the obliquely-cut end of the tube *f*, some air will rise in the latter, cause the column of liquid contained in it to fall back, and at the same time cause the water contained in *K* to flow back into the flask, where it will so increase the contents of the latter that the exit tube for the gas *b* will be under water, and the flame therefore be extinguished.

The same principle may also be applied to drying-ovens, as is shown in the other cut. The arrangement is the same in principle and is set in action in the same manner.



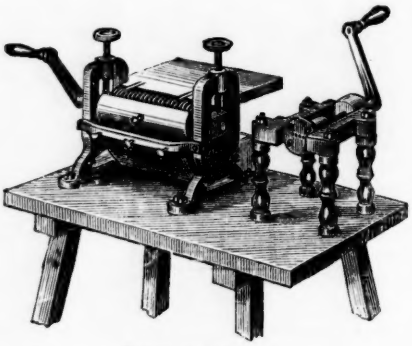
Apparatus for Controlling Evaporation.

Rotary Pill-Machines.

The well-known firm of Schlag & Berend (Berlin, Alexanderstr. No. 70) manufacture a rotary pill-machine for making pills on a large scale. The machine is constructed of iron, and is fastened upon a solid wooden bench. It consists of three principal parts, namely: 1. The pill-mass press (see cut, figure on the right), which, when charged with the mass, turns it out in strings of the proper thickness, which may be cut to any desired length. 2. The rotary pill-cutter (see cut, figure on the left), in a solid iron-frame, with a corresponding, closely-fitting, but removable channel-plate. The semicircular grooves of the cutter or cylinder correspond with the semicircular grooves of the channel-plate. 3. A box for receiving the finished pills.

The greatest care should be bestowed upon the pill-mass, which must be of the proper consistence, cohesion, and elasticity. The mass

being ready, a suitable quantity of it is introduced into a tubular box forming part of the pill-mass press, which is represented by the smaller figure on the right (see cut). By turning the winch to the left the tubular box is disengaged from the machine, and, after being charged with the mass, is replaced, and by turning in the opposite direction, a piston fitting into the box presses the mass through the circular openings in the front plate, where the strings are cut off to the proper length. These strings are then succesively laid upon the rotary pill-cutter, with slight pressure, and by a turn of the winch the whole is carried through between the grooves and turned out below as finished pills. The strings may be placed upon the cutter in close proximity to each other, so that one complete turn of the cylinder will turn out from 500 to 600 pills. The use of a dusting powder is disapproved by the manufacturers. Only in case the pill-mass should glide or slip, a small quantity of a *resinous* powder may be used. The channel-plate must lay quite lightly upon the cutter, otherwise the sharp edges separating the grooves would suffer, and the machine would require too much labor for working. For cleaning the machine, a brush is recommended.

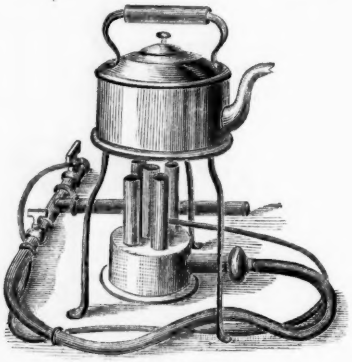


Rotary Pill-Machine.

These machines are furnished either with a cylinder cutting various sized pills (1, 2, 3, 4 grains) at one and the same time, or only one kind. The pill-mass press is furnished with corresponding front-plates. The price of a machine, complete as shown in the cut, with a cylinder cutting thirty pills of *one* size, is one hundred and ninety-five marks; for each additional kind forty-eight marks more.

Dr. Symes' Rapid Boiler.

THE accompanying cut illustrates an arrangement by which boiling water may, at any time, be got ready, in a few seconds, for making infusions or other purposes. The general gas-tube supplies two branches, which can be used separately or together, as required. The small tube supplies the middle Bunsen's burner only, and gives but a small jet, consuming only a trifling amount of gas. By keeping this always burning, the water above is always kept hot. Whenever it is required at boiling temperature, the other tap is turned on, the other burners light themselves from the central jet, and the water boils almost immediately. This apparatus was devised by Dr. Symes, and was exhibited at the late British Pharm. Conference.



Symes' Rapid Boiler.

On Hyoscine.

PROF. LADENBURG noticed some time ago that hyoscyamus contained, besides hyoscyamine, a second alkaloid which remained in the mother-liquid after the crystallization of hyoscyamine, and occurs in commerce as a brown thick syrup. This was found to still contain considerable quantities of hyoscyamine, and the best way to separate the two substances was ascertained to be by means of the gold-salt. Hyoscine-gold chloride is less soluble than the hyoscyamine salt, has a duller lustre, forms better crystals and has a higher melting point. The products of the decomposition of the pure alkaloid, which the author found to have the composition $C_{17}H_{23}NO_3$ (isomeric with atropine and hyoscyamine) were ascertained to be tropic acid and a basic substance, which differed in a characteristic manner from tropine (the derivative of atropine and hyoscyamine), and which the author calls *pseudotropine*. The decomposition-product of hyoscyamine had heretofore been called hyoscine; but, as Professor Ladenburg has shown (see our July number, p. 208) that this is identical with tropine, he now proposes to apply the name *hyoscine* to the second alkaloid naturally occurring in hyoscyamus. According to experiments of Prof. Voelkers, of Kiel, hyoscine has equally great mydriatic power as atropine.

The following mydriatic alkaloids have so far been obtained from the family of Solanaceous plants:

1. Atropine, $C_{17}H_{23}NO_3$; splits into tropic acid $C_9H_{10}O_3$ and tropine $C_8H_{15}NO$.

2. Hyoscyamine, $C_{17}H_{23}NO_3$; splits into tropic acid $C_9H_{10}O_3$ and tropine $C_8H_{15}NO$.

3. Hyoscine, $C_{17}H_{23}NO_3$; splits into tropic acid $C_9H_{10}O_3$ and pseudotropine $C_8H_{15}NO$.

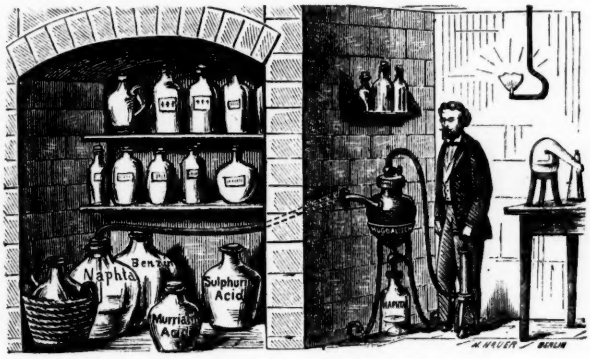
4. Homatropine (a secondary product), $C_{16}H_{21}NO_3$; composed of amygdalic acid (see October number, page 298) $C_8H_8O_3$ and tropine $C_8H_{15}NO$.—*Ber. d. Deutsch. Chem. Ges.*, 1880, 1549.

Peculiar Reaction of Resorcin with Urea.

DURING the physiological experiments which Dr. Andeer of Würzburg instituted on the effects of resorcin (see our September number, p. 269, and October, p. 291), it was observed that the kidneys of animals, into the organisms of which resorcin had been introduced, assumed an intense *blue* color on being heated. This was supposed to be owing to the production of resorcin-ammonia, which is known to turn blue on being for a short time exposed to the air. But, as the color made its appearance only on *heating* the kidneys, it followed that the ammonia was produced from another substance by heat. On making a trial with a mixture of pure urea and resorcin, it was found that this produced, on heating in the air, an intensely blue sublimate. K. Birnbaum and Gregor Lurie have studied this reaction, and found that if the sublimation is conducted with exclusion of air, the sublimate consists of resorcin and carbonate of ammonia, and is colorless. As soon as air is allowed to have access to it, however, it turns blue even at ordinary temperature. The authors have isolated the substance which causes the coloration, but not in a sufficiently pure condition to give absolutely reliable results. It appears, however, that, by heating resorcin and urea, the latter is converted into ammonia and cyanuric acid, and this acts upon the resorcin, abstracting water and producing the new body in question.—*Ber. d. Deutsch. Chem. Ges.*, 1880, 1,618.

Suction Pump for Inflammable Liquids.

MANY accidents in drug-houses and manufacturing establishments have been caused by the ignition of the vapors arising from inflammable liquids while being poured from one vessel into another in dark rooms or cellars, in presence of a light. To avoid this danger, Mr. Hugo Alisch, of Berlin (Belle-Alliance Strasse, No. 11), has constructed a suction pump, by means of which any such liquid may be pumped from its receptacle in the cellar, etc., to the receiving vessel situated at a distance or in another room. The apparatus is easily intelligible from the cut. According to the nature of the liquid to be pumped, either a lead, or india-rubber, or other kind of conducting tube must be used. And where there is a constant demand for any special liquid, a separate apparatus may be employed for each liquid, which is not a heavy expense, as the whole apparatus only costs 36 marks.



Alisch's Pump for Inflammable Liquids.

When using it, the faucet on top of the pear-shaped receptacle (which is of glass) is opened and the lower faucet closed. The globe is then filled by pumping, and when sufficient liquid has been obtained, the upper faucet is closed again, and the contents drawn off through the faucet below.

Poisonous Action of Bromide of Ethyl.—DR. ISAAC OTT has experimented on rabbits with bromide of ethyl, and finds that when either inhaled or used subcutaneously it kills by a toxic action upon the respiratory centres; that the decrease and frequency of the heart's action contribute to the paralysis of these centres, by injection of the ethyl into a jugular vein, towards the heart; that in toxic doses it depresses momentarily the frequency of the pulse, followed by a permanent rise to a normal rate, but it depresses the tension of the pulse steadily, due, mainly, to the depressing action of the drug upon the heart, and somewhat less to a partial loss of tone of either the spinal vaso-motor centres, or the peripheral vaso-motor system. The inhibitory power of the pneumogastric is not paralyzed.—*Detroit Lancet.*

Dr. Ferdinand v. Hebra, Professor at the University of Vienna, who may be called the founder of modern dermatology, and who began his career as academic teacher in 1842, died on Aug. 5th, at an age of 64 years.

THE PHARMACOPŒIAL NOMENCLATURE.*

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A CORRECT, exact, and significative official nomenclature is one of the most necessary features of a pharmacopœia.

No nomenclature can be correct, exact, and significative which is constructed from a living language. Whatever tongue may be adopted for the text of a pharmacopœia, whatever may be its native nomenclature, whatever terms may be used in prescription writing, and no matter how frequently or rarely the pharmacist may pronounce the technical official titles (made up from the dead languages), the necessity for such titles is obvious.

The words composing a living language undergo change in a wonderfully short time. How many of us understand the language of our forefathers? How many in our days know what our most common words signified a century ago? Every word in a living tongue is liable to be used with many different meanings. The older the word, the more varied is its latest significance from the idea it originally conveyed. In America a common purely English word may be used in a sense widely different from that in which it is used in England. A living language changes because it is living. It is, therefore, unfit for use in constructing a scientific, technical nomenclature.

A dead language is unchangeable, and hence its use in all scientific terminology, be it in botany, chemistry, theology, law, or any other department of human observation and reasoning. Of the dead languages, Latin is preferred because the modified Latin which scientists have been for ages forming is full of brief and expressive words adaptable to everything which has passed into the history of human knowledge.

The Romans were a practical people, with an extended real knowledge of the things and affairs of the world then known. They were familiar with the condition and life, inventions, and institutions of every people with which they came in contact, and which they conquered and ruled over. As orators and scholars, statesmen and lawyers, they developed their language into a marvellous variety and richness of thought and ideas, into a power and clearness of expression never surpassed by any other. And when the old civilization and its language perished in the ruins of Rome and were buried under the mediæval barbary, was it not through the dead Latin cultivated in the seclusions of convents that the traces of that old civilization were not forever lost, and that humanity was saved for the new civilization which we enjoy, and for the development and perpetuation of which, in the limited sphere in which we are acting, you are here assembled to day.

By adopting a Latin nomenclature, we are enabled to make it, by common consent, absolutely certain that there can be no mistake as to what particular object we refer to. We can arbitrarily and permanently give to any Latin word a specific meaning which that word will not fail to convey at any time, because a word from a dead language is above the ideas that *change*, as of necessity do all names and ideas of a living language. Moreover, when we adopt for any particular thing a name which in itself has no relation to and cannot be influenced by the ideas of the native tongue, we may not only choose a name which can convey no other meaning than that intended, but in selecting it from such a developed and classic language as Latin, we are even enabled in most cases to make the name chosen a significative as well as a correct one.

In a perfect scientific nomenclature, then, each term used should convey not only a *correct* and *exact* conception of the thing to which it applies, but as *full* an understanding of the nature of that thing as possible. Beyond this, a Latin nomenclature has no value in a pharmacopœia. If our Latin official names are not as absolutely explicit as they can be made, they do not fulfil their use. Other pharmacopœias go so far as to insist upon a *Latin text* as well as Latin titles. We all know why; and in our pharmacopœia, where the text is English, the Latin titles should by all means be sufficient in themselves so far as this is practicable, for we should not rely upon the text to remove doubt.

If we could construct intelligible and brief English names, which in every instance would carry with them as accurate and full knowledge as Latin names can be made to do, we might properly dispense with our Latin titles, provided we are willing that our pharmacopœia shall be addressed exclusively to English speaking people, and at the same time willing to sacrifice our knowledge of the key which enables us to readily learn what other pharmacopœias are. But we cannot construct a satisfactory and safe nomenclature in English. To become practically convinced of the fact, it is only necessary to make the attempt. It would result in confusion and the defeat of systematic classification.

At the same time we want English official titles in addition to the Latin ones. The *English* official titles are those which we will most frequently use, and with comparatively few exceptions, those at present in use are probably as good as any that could be adopted. The Latin official titles are chiefly to serve as definitions of the English ones, instead of *vice versa*, as many suppose. Looking at the relation of Latin titles to the English ones in that way, I would rather say "*Calomei*" than "mercurous chloride" or "mild chloride of mercury," because it is unique, brief, and safe; but I would make the Latin name one which tells us what calomel really is.

While, however, we should strive to make our pharmacopœial nomenclature as perfect as we may, no change should be made which is so great as to be liable to cause error or misunderstanding. The only changes that ought to be made, are such as may be necessary to obviate offences against knowledge, and to make our present titles as clear and specific as possible, without transforming them beyond ready recognition. Above all, we should not give to any substance a name which conveys a positively erroneous conception of what it really is.

The principles which should govern us, as far as we may safely go in the revision of the officinal titles, are these:

1. *No name used should be one that does violence to established knowledge or perpetuates ignorance.*

Against this rule we find several offences in our present nomenclature. Among those which in the opinion of the writer should be at once removed are the following:

a. Volatile oils should no longer be grouped with the fixed *oils*—by reason of incorrect nomenclature. This grave error ought not to be perpetuated. "Volatile oils" not only are not "oils" or fats, but do not even *resemble* them any more than they resemble other liquids, and the points of difference between the volatile oils and oils are striking and great.

The only remedy for this confusion, however, is a radical one—the most radical change of all that the writer recommends, because it necessitates the introduction of a name which, although not new, has heretofore been unknown to us American pharmacists in a Latin form. It is unfortunate that in every civilized country the "volatile oils" received similar and corresponding names, since they are all wrong. It is probably impossible to introduce a new *English* name to take the place of that of "volatile oil," and it is not proposed to attempt it. But a Latin pharmacopœial name can surely be adopted, which will be distinctive. The writer has, however, been unable to find a perfect scientific name, and finds himself obliged to recommend the one adopted in the Swedish and other pharmacopœias, viz., "*Ætheroleum*," which is at once understood and distinctive, and readily becomes familiar.

Many drugs contain both a fixed and a volatile oil,

* Read at the twenty-eighth annual meeting of the American Pharmaceutical Association, held at Saratoga, and communicated by the author.

and if both are to be called "Oleum," confusion results. The retention of that name in designating volatile oils, besides being an error, is a great hindrance to students. *Oleum* Myristicæ, as distinct from *Ætheroleum* Myristicæ, would be far more clear than to say "*Oleum* Myristicæ *Expressum*," as distinct from "*Oleum* Myristicæ," or from "*Oleum* Myristicæ *Æthereum*."

I know from personal experience that students frequently mistake a volatile oil for a fixed oil, and *vice versa*, when a distinctive name for each would render such confusion out of the question.

If any better name could be suggested (one which does not contain the "oleum" in it at all), it should be adopted. If not, *ætheroleum* is decidedly better than "oleum."

b. Among the "Acida" we have: "Acidum Sulphuricum Aromaticum!" The English title "Aromatic Sulphuric Acid" being established and sanctioned by usage, is permissible, and will no doubt be continued; but to construct a Latin title, such as the one in question, seems to be inexcusable. It surely is not an *Acid* at all, and instead of being called an *Aromatic Acid* (!) it should be called "Tinctura Aromatica Acida," which it is.

c. The name "Tinctura" should not be applied to simple solutions of inorganic substances, but should be restricted to the tinctures proper, as the term "tincture" is pharmaceutically understood. Among the fifty-seven tinctures officinal in the present pharmacopœia, there are *only three* which do not properly come under the definition of their title; and instead of adding to these three we should change their names to something else, so as to henceforth leave the group perfect and distinct. Tinctura Ferri Chloridi, Tinctura Iodinii, and Tinctura Iodinii Composita, the three exceptions, are properly speaking *spirituous solutions*, and *not tinctures*. Why should this great group, to which *fifty additions* have been recommended to be made in the forthcoming pharmacopœia, be marred by the insertion in it of three or four preparations that do not belong to it except in name?

The writer believes that the most perfect pharmaceutical groups could be made of all the official preparations. Among the exceptions to a proper nomenclature in that respect existing in the present pharmacopœia are the following:

d. Among the "Aquæ," we find "Aqua Acidi Carbolici," "Aqua Acidi Carbonici," "Aqua Ammoniæ," and "Aqua Chlorini," all of which should be called *solutions*, so as to leave only water and the aromatic waters under the head of "Aquæ."

e. The "cerata" and "unguenta" should be put under one head (preferably that of "unguenta"), because it is impossible to draw a strict line of separation between them: in fact, the present pharmacopœia calls some cerates ointments, and some ointments cerates already. (See Cerat. Zinci Carb., Unguen. Zinci Oxidi, and Unguentum Cantharidis.)

f. "Linimentum Aconiti" is a *fluid extract*, and should be so styled without reference to its use.

g. The "Liquores" are mostly *solutions*, and should be so termed, together with all other solutions of chemicals and gases in water, except the acids; while those of the present "liquores" which are *not solutions*, together with other preparations resembling somewhat the solutions, tinctures, mixtures, spirits, etc., and yet not properly belonging to either, should be called *liquores*.

h. The "spirituous solutions" should form a separate group, consisting of "Solutio ferrici chloridi spirituosa" (tincture of iron), etc.

i. Among the "spiritus," we have only six that are not solutions of volatile oils in alcohol. Of these "Spiritus Ætheris Compositus," and "Spiritus Ætheris Nitrosi" should be called *Æther Spirituosus*, and *Æther Nitrosus Spirituosus*, respectively; the other four are liquores, or tincturæ. (The tincture is the "Spir. lav. comp.") All the other *spiritus* are solutions of volatile oils in alcohol, and to such only should the name spiritus be applied.

But few of the changes proposed would be striking and unfamiliar, and none of them would be difficult, as they would all clearly resemble the old names, and would be at once intelligible.

There are other isolated instances of misleading or incorrect names, which will be found in the list accompanying this paper.

2. *Each name should be clear and descriptive, as far as consistent with necessary brevity.*

This rule, which requires that each title should have a *self-evident* and *comprehensive* meaning, is sinned against in various ways.

a. In the names of all drugs consisting of distinct parts or organs of plants, the particular part to be used should be designated in each case, for the following reasons: Of over thirty plants, from which official drugs are now obtained, more than one part or organ of each is separately officinal and in current use, *and, in many cases, more than one organ is separately official.* It is absolutely necessary to distinguish between Hyoscyami Folia and Hyoscyami Semen, between Belladonnæ Folia and Belladonnæ Radix, etc. The proposition which has been made to drop one of the drugs (parts official), and to give the retained part the generic name (as, for instance, to drop "Conii Folia," and then to give to "Conii Fructus" the generic name *Conium*), is certainly wrong. In the United States, where so many medicinal plants are being constantly introduced into the practice of medicine, and where several distinct parts of the same plant are so frequently separately used, it would seem to be no less necessary than useful to designate the "part used" in every case, to avoid all ambiguity. It is not improbable that of many plants, of which at present only one part is used, other parts may hereafter be introduced into the current materia medica, even if not in the pharmacopœia, and in our country it will not do to ignore the non-official officinal drugs to the extent of framing the official nomenclature without regard to them.

By naming the particular part of the plant in each case, the nomenclature of the whole vegetable materia medica would be uniform, exact, and clear; students and apprentices in drug-stores would at once learn an important part of this branch of their studies in the very nomenclature itself, which is no small matter; we would be in perfect harmony with science; we would not appropriate botanical names, and use them in an entirely different sense; we would be in accord with some of the best pharmacopœias of the world in this particular, and in advance of them in that we would put the name of the plant first, and the part used last, instead of *vice versa*; and yet the new names would not be inconveniently long, while, of course, they would be as easy to know and remember as the present names. It is not more difficult to say *Myristicæ Semina* than to say "Myristica," or *Sennæ Folia* than "Senna."

It would, in the writer's opinion, be advantageous to say *Marantæ Amylum* instead of "Maranta," not only because the latter is *not* a universally understood name for the drug "arrow-root," but because *Maranta is* the generic botanical name of the *plant* from which the drug is obtained, and because the proposed name at once *tells us just what the drug is.*

Changes under this rule should, however, not be extended to drugs, the officinal names of which are already quite clear, as "Ammoniacum," "Asafœtida," "Lactucarium," etc. These names are not applied to anything else, and are universally understood.

In cases where the whole plant is used, it would be sufficient to use only the generic botanical name, provided it be understood that the generic name will *not* be used alone in any other case.

b. A great improvement can be made in the *Latin* nomenclature of the medicinal chemicals by making it correspond to the modern and *generally adopted* English names of the new chemistry, in accordance with which text-books, teachers, and chemists say "mercuric chloride" instead of *chloride of mercury*, "ferrous bromide" instead of *bromide of iron*, and so on all through the list.

We would then have *ferrosus sulphas* for "ferrous sulphate," *ferricus sulphas* for "ferric sulphate," etc. It would then also be sufficient to say *syrupus ferrosi chloridi* instead of "syrupus ferrosi chloridi viridis." *ferrico-ferrosus phosphas* instead of "ferri phosphas subcœruleus," and *ferricus phosphas* instead of "ferri phosphas albus."

The Latin names of chemicals should show their composition as unequivocally as possible. "Hydrargyri chloridum" signifies a chloride of mercury, but which one? "Ferri phosphas" means a phosphate of iron, but does not tell us which one. "Ferri chloridum" does not indicate which of the chlorides of iron is meant, and so on. We want names which, so far as the character of our pharmaceutical chemicals admits, shall unmistakably determine what particular chemical is intended. The nomenclature introduced by Berzelius accomplishes perfectly this result, and yet is not in conflict with either the new or the old chemistry. Hence, even if we may now be on the threshold of the most important chemical discoveries, it does not seem probable that such discoveries will for a very long time to come, if at all, render this nomenclature incorrect, or afford us a better one. The Berzelian nomenclature, strangely enough, *brings the different pharmaco-chemical nomenclatures in use in different countries together, and can be readily understood in all of them.* For these reasons, it has been recommended by the International Medical Congresses as the nomenclature best adapted to the proposed universal pharmacopœia, or for adoption in the several pharmacopœias of different countries to insure international uniformity.

It fortunately so happens that the changes necessary in our present pharmacopœial nomenclature, in order to accomplish this end in view, are comparatively slight, and will, as a rule, result in names, the abbreviations of which are exactly the same as now.

The changes required are simply in the ending of that part of the name which refers to the basylous radical, for we already say "phosphas," "sulphas," "chloras," etc. The modern *English* chemical names of acids, bases, and salts are in accord with the Berzelian system, and correspond exactly with the Latin names now proposed. Thus we say ferrous chloride, ferric chloride, potassic nitrate, cupric oxide, arsenious acid, arsenic acid, ferrico-ferrous phosphate, etc. *All that is necessary, therefore, is to literally translate these names into the corresponding Latin names.* This would give us ferrosum chloridum, ferricum chloridum, potassicus nitras, cupricum oxidum, acidum arseniosum, acidum arsenicum, ferrico-ferrosus phosphas, etc.

The Latin names of ox-acids already have the terminations "-icum" and "-osum," and the bases and salts should be named according to the same system. *Sulphuris acidum* would be unintelligible, while Acidum sulphur*icum* and Acid. sulphur*osum* are quite clear.

Incidentally in the proposed nomenclature, that part of the name which refers to the basylous radical might be looked upon as indicating its atomicity, for we could consider hydrargyrosum as a monad, hydrargyricum as a dyad, ferricus as a triad (or hexad), etc.; but this is of trifling importance in comparison with the grand result aimed at.

Should the proposed changes be made, we could dispense with the additional explanatory or distinguishing adjectives that are now necessary to remove ambiguity. In the cases of poisons, it would, however, be safest, if not quite necessary even with this new nomenclature, to retain the "Mite," "Corrosivum," "Rubrum," "Flavum," etc.

Physicians will experience no difficulty on account of the adoption of the new nomenclature, for it will *at once be seen that the abbreviations in prescription writing would be precisely the same as now in nearly every case*, and physicians always abbreviate in writing prescriptions.

The chemical nomenclature recommended is not new. It was originated by Berzelius, and is substantially that recommended more or less highly, and to a greater or less extent *followed*, by some half a dozen of the best pharmacopœias in the world; Prof. W. A. Miller, of Kings College, London, whose work on chemistry is so generally used, Prof. John Attfield, Prof. John M. Maisch of our own country, and numerous other authorities. The only new feature I have to offer is that of reversing the order in which the two words of each name follow each other in the *Latin* names of the Berzelian nomenclature as now used, so as to say Ferrosus Sulphas instead of Sulphas Ferrosus, to make them correspond with the *English* names, and bring all preparations of the same metal together in one place when alphabetically arranged.

The schools and colleges are teaching the Berzelian chemical names, and their students learn to understand the difference between, and to say mercur*ic* and mercur*ous*, stann*ic* and stann*ous*, ferr*ic* and ferr*ous*, etc. That this nomenclature in chemistry is infinitely better than the indefinite "chloride of mercury," "sulphate of iron," etc., is obvious enough; it is also preferable to the names with the prefixes "proto-," and "per," and "sesqui," etc. If this be *not* so, then let the schools and colleges go back to the old plan; if, on the other hand, the new teaching is correct, then let us follow it in the pharmacopœia, too, in justice to the younger members of the professions. Conservatism is necessary in such a matter as the preparation or revision of a pharmacopœia; but that conservatism, in the writer's opinion, should not be so rigid as to actually hinder progress.

3. *No official name is proper which is capable of essentially different interpretations, or which has been, or is applied to more than one thing.*

Many of the defects already pointed out are also in opposition to this principle, as, for instance, the names of chemicals in cases where both "-ic" and "ous" compounds of the same radical exist; the title "Oleum," when applied to volatile oils, is another breach of this rule; and so are the botanical generic names of plants, of which several distinct organs are separately used, when the particular part intended is not specified in connection with such generic names.

The official *English* name of a vegetable drug, or of a chemical, should be the correct scientific one, rather than the local or vulgar name. Thus *Taraxacum* instead of "Dandelion," *Podophyllum* instead of "May-apple," *Spiræa* instead of "Hardhack," etc. Many of the vulgar local names are applied to several different plants, and in the present Pharmacopœia we find the name "Indian hemp" applied both to the Cannabis Indica and to Apocynum Cannabinum. Besides, some of the vulgar local names are barbarous.

The discarded English official names should be transferred to the synonyms.

4. The nomenclature should be one which enables us to combine to the greatest practicable extent alphabetical order with systematic classification; and to that end, since nearly every title consists of more than one word, the generic should precede the specific, as logic demands of every scientific definition.

The Pharmacopœia being primarily established as an aid to the physician, it appears to the writer that the present classification of the remedies in the official list is wrong. The only perfect classification of the preparations would be to put them all under the head of their respective active constituents. To put all the tinctures in one group is quite correct alphabetically and pharmaceutically, but also quite incorrect in every other respect. All the different forms in which one and the same remedy is administered internally, should be placed together under one head as far as practicable. For instance, digitalis is a distinct therapeutic agent, but all the preparations of digitalis are simply other forms of the remedy digitalis, and should be classified accordingly. A classification based upon this principle could very properly be effected without disturbing the alphabetical order, so far as such simple preparations as the tinctures, extracts, etc., are concerned. It would clearly carry with it great advantage to the physician were we to say Hyoscyami folia, Hyoscyami tinc-

tura, Hyoscyami extractum, Hyoscyami fluid-extractum, etc., thus putting them all together. This arrangement may perhaps be somewhat disadvantageous to the pharmacist, but that is surely of secondary importance only. Thus I would place that part of the name first which indicates the therapeutic base in the names of all simple aceta, solutiones, decocta, extracta, fluid-extracta, infusiones, oleo-resinæ, pilulæ, pulveres, resinæ, spiritus, succi, syrupi, tincturæ, trochisci, vina, and all other similar preparations. Should this be done, polypharmacy in the pharmacopœia and authorized machine prescribing would thereby receive an effective check, because, although such formulæ as that for compound cathartic pills could still be retained in the pharmacopœia, they would necessarily be placed by themselves, and in that way singled out for pecial scrutiny.

A classification of this kind would not—and for obvious reasons—in all cases bring an alkaloid under the head of the crude drug from which it is obtained; but, as the therapeutic effects of alkaloids are frequently different from those of the drugs from which they are derived, that circumstance does not vitiate the system.

5 *Harmony with the rest of the civilized world is desirable so far as attainable without sacrifice of clearness and correctness, and without too violent changes.*

a. The question as to whether or not the Latin names "Antimonium," "Potassium," and "Sodium"—Latin in appearance only—shall be changed to Stibium, Kalium, and Natrium, so as to be in harmony with the nomenclature used on the European continent, *and with the universally recognized chemical symbols*, could not be ignored in a paper on pharmacopœial nomenclature.

The names Stibium, Kalium, and Natrium, are used everywhere except in England and the United States, and from them the symbols Sb., K., and Na., were obtained. Their adoption does not necessarily follow from the adoption of the propositions already set forth, nor is it proposed to attempt to change the *English* names antimony, potassium, and sodium which are fixed. A change in the *Latin* names of these three metals would, however, be exceedingly desirable, *for it is only in the pharmacopœias, or in medicine, that we are at variance with science in respect to the chemical symbols, and that only in these three names.* If adopted they would give us *Stibiosum Oxidum* instead of our present "Antimonii Oxidum," *Kalicus Nitras* instead of "Potassii Nitras," and *Natricum Chloridum* instead of "Sodii Chloridum." The English names would remain: Antimonious Oxide, Potassic Nitrate, and Sodic Chloride.

b. "Alumen" is the time-honored name of the "Sulphate of Aluminium and Potassium," and should not be given to the ammonia alum, as in the pharmacopœia of 1870.

c. Bromum, Chlorum, and *Iodum* are the correct Latin names of Bromine, Chlorine, and Iodine, and they correspond with the "Bromidum," "Chloridum," and "Iodidum," and with "chloras," etc., which we employ.

d. Manganum is the proper Latin name for Manganese.

e. Acidum Boricum is clearly the proper Latin name for Boracic Acid, for it is an acid of Boron and not of Borax.

6. *Euphony should not be ignored when it can be easily satisfied.*

The names of alkaloids should end with *ina* instead of "ia."

The present termination (*ia*) is exceedingly awkward in many ways. Several drugs, the names of which have that ending, contain alkaloids, which consequently receive the same names, as sanguinaria, lobelia, etc. Besides, there are a number of other names ending with ia, such as Acacia, Gaultheria, Gambogia, etc., so that the *ia* is not at all a distinctive termination as generally supposed. Again there are a number of alkaloids the names of which, when given that ending, are so very awkward that they cannot fail to strike most of us as very good to get rid of, as papaveria, parteia, codeia, hyoscyamia, conia, narcotia, etc. Finally, the termination *ia* is not uniformly adhered to even in America, where it has had its chief support.

The ending *ina*, however, which is not a great change from the *ia*, and which is more natural and euphonious, puts us at once in harmony with the rest of the world, for *ia* is not used to any great extent in England, and on the continent of Europe they say morphina, morphine, or morphinum; quinina, quinine, or quininum or (chinina, etc.). The ending *inum*, it is pretty generally conceded, should be reserved for the names of neutral substances.

Euphonious names will invariably result when constructed with the ending *ina*, as compared with the same names having the ending *ia*. We would get: papaverina, sparteina, codeina, hyoscyamina, coniina, narcotina, sanguinarina, lobelina, quinina, morphina, etc.

To retain the ending *ia* in the nomenclature of the alkaloids because the old word ammon*ia* has that ending, on the ground that the alkaloids are derivations of ammonia, is unwarranted.

"Glycerina" and "Lupulina" should be respectively *Glycerinum* and *Lupuli Glandulæ*. To those who will calmly reflect upon the matter, these proposed improvements will appear worthy of serious and unbiased consideration. Such consideration will probably lead to the conclusion that the adoption of the changes recommended will not be coupled with any serious difficulty. Even if physicians should for a long time continue to write Tinctura Hyoscyami, Ol. Lavandulæ, Magnesia, and Spir. Æther. Nitr. instead of Hyoscyami Tinct., Ætherol. Lavand., Magnes. Oxid., and Æther. Nitr. Spir., there surely could be no misunderstanding about what they meant, nor any inconvenience resulting from it, even if the pharmacopœia should not contain a list of the changes, which of course it would do.

Rigid conservatism may be proper in the question of admitting new remedies into the pharmacopœia; but the idea that we must make a pharmacopœia which is on a level with the great majority of the physicians and pharmacists *in all things* might well be modified so as to admit of the adoption of obvious practical improvements even if entirely new, should it be found that no evil results can possibly follow, for it is but reasonable to expect that the periodical revisions of our standard guide may be made the means of gradually elevating the general standard of knowledge and practice, taking it for granted that "the many" will readily and cheerfully consent to any reasonable changes which can be at once *understood*, or which cannot cause any difficulty whether at once generally *accepted* or not.

It has been argued as against any change in the *chemical* pharmacopœial nomenclature, that chemical theory and nomenclature are constantly changing. That they are ever changing is true, and no one would wish it to be otherwise, since the established changes in any science mark its progress. Instead of waiting for science to come to a halt, let us keep up with it. Its progress will *never* cease, but it will not be so rapid as to make it impossible for us to follow, unless we prefer to be left behind. All life is change.

The changes suggested in this paper have been laid before the Committee of Revision and Publication of the Pharmacopœia. A vote has already been taken upon them, which indicates that there is considerable difference of opinion, and yet a majority of the votes cast are in favor of most of the propositions.

I have purposely proposed to the Chairman of the Committee, Mr. Charles Rice, to set that vote aside in order that the members of the Committee may consult the members of the American Pharmaceutical Association, if they desire, and in order that the whole matter may be thoroughly discussed before it is finally decided, as I am confident, not only that the changes recommended ought to be made, but that the judgment of the Committee will be influenced by that of this great gathering.

It is proper to call attention to the fact that the Pharmacopœial Convention of 1880 instructed the Committee of Revision and Publication to state the chemical formu-

læ of all definite inorganic compounds *in accordance with the new chemistry*, which would seem to require that a nomenclature be also adopted which is in perfect harmony with the formulæ to be given in the pharmacopœia.

I sincerely hope and believe that the forthcoming pharmacopœia of the United States will be one which the medical and pharmaceutical professions of the country can receive with approval.

N. B. Since reading the above paper before the Association, it has occurred to me that it would be highly desirable and quite proper to ignore the possessive case in a technical nomenclature, which is used by a class of men who have absolutely no need of Latin or Greek as a language, but only use it as a necessary evil for the reasons stated in my paper, and who certainly as a universal rule know little or nothing of Latin and care not to waste their time in acquiring even sufficient knowledge of Latin grammar to appreciate the correctness or incorrectness of the form in which the nomenclature may be put. Prof. O. A. Wall, of St. Louis, expressed to me the opinion that it would be better if physicians made no attempt whatever to write their prescriptions in correct Latin form, but would write "OLEUM Ricini, ℥ i.," instead of "OLEI Ricini ℥ i., etc. I agree fully with him. But why not relieve physicians and pharmacists of all unnecessary Latin grammar, and simply use the nominative case everywhere? Latin scholars might criticise a nomenclature so constructed; but the pharmacopœial nomenclature is not intended to satisfy scholarly taste or even base grammar. In fact the pharmacopœial nomenclature is constructed purely for technical purposes, and therefore there can be no impropriety in constructing it without regard to an observance in it of grammatical rules which are rarely if at all observed in daily routine, for the very good reason that a vast majority of those who use the Latin pharmacopœial names do not know any Latin at all.

What difference does it make to physician or pharmacist whether he knows or does not know the possessive form of Rhus, Physostigma, Anthemis, Spiritus, Semina, Erigeron, Cornus, Juglans, Macis, Marmor, Kino, Matico, Pepo, Rhizoma, Filix Mas, Rubus, Ribes, Sago, Sassafras, Sulphis, Asclepias, etc. And what a relief it would be to get rid of the necessity of knowing it. It is simply a question of arbitrary agreement. The loss sustained by such a change would in no wise be felt, while the gain would be a practical one.

It is clearly quite as explicit to say Arnica Radix as to say Arnicæ Radix and surely Rhois Toxicodendri Tinctura would not be as readily understood as Rhus Toxicodendron Tinctura. I earnestly believe, therefore, that we should drop the possessive case in the Latin pharmacopœial nomenclature, and also the word "et" wherever it occurs in the names of compound preparations.

The list of the new names which might be adopted in accordance with the principles set forth in this paper and which accompanied the latter as a necessary part of it, would be too long for publication in NEW REMEDIES. It would require all of its available space to the exclusion of all else.

For the sake of illustration, the following titles are selected from the list of proposed new names submitted to the Committee of Revision and Publication of the Pharmacopœia of the United States:

Acidum Hydrochloricum	instead of	Acidum Muriaticum.
Antimoniosum Oxidum	"	Antimonii Oxidum.
Solutio Chlori	"	Aqua Chlorinii.
Calx Sulphurata	"	Calcii Sulphuretum.
Calcicum Oxidum	"	Calx.
Colchici Cormus	"	Colchici Radix.
Ferricum Chloridum	"	Ferri Chloridum.
Ferrico-Ferrosus Phosphas	"	Ferri Phosphas.
Ferrosum Iodidum	"	Ferri Iodidum.
Jalapæ Tubera	"	Jalapa
Solutio Ferrici Citratis	"	Liquor Ferri Citratis.
Morphina	"	Morphia.
Ætheroleum Amygd. Amar.	"	Ol. Amygd. Amar.
Oleum Amygdalarum	"	Ol. Amygd. Express.
Potassicum Iodidum	instead of	Potassii Iodidum.
Quininicus Sulphas	"	Quiniæ Sulphas.
Sabinæ Ramuli	"	Sabina.
Sodicus Carbonas	"	Sodii Carbonas.
Syrupus Sacchari	"	Syrupus.
Unguentum Adipis	"	Unguentum.
Zingiberis Rhizoma	"	Zingiber.

RECENT PAPERS.

Asarum Canadense, and its Constituents.—(FREDERICK B. POWER, of Hudson, N. Y.). The author, who undertook this investigation with a view of presenting his results as a thesis for obtaining the degree of Ph.D., at the University of Strassburg, confined his studies chiefly to the volatile oil, obtained by distillation of the rhizome. —*Asarum canadense* L. presents but few prominent distinctions from the European species, *Asarum europæum*, and indeed, some botanists have considered them as simply varieties of one and the same species. The two plants may, however, be readily distinguished from each other. *A. canadense* is much more pubescent, the flowers of a brighter hue, and the rhizome usually attains a considerably larger size than the European species. The most important difference, however, between the two species seems to be in the nature of their chemical constituents: the rhizome of *A. europæum* possesses, according to several competent observers, acrid, emetic, and cathartic properties, and was considerably employed in Europe previous to the introduction of ipecac. On the other hand, the American species has been found to possess a mild, stimulating, diaphoretic action, producing nausea only in large doses. These differences in therapeutic action, however, may be possibly of degree, rather than of kind.

The chemical examination of the rhizome showed this to contain: an aromatic volatile oil, starch, gum, a little resin and fat, amorphous yellow coloring matter (seems to be the "asarin" of Graeger), uncrystallizable sugar, a good deal of nitrates, small amounts of a body exhibiting alkaloidal reactions, but which is only a very feeble base, water, and mineral constituents.

The volatile oil was found to consist of the following components: 1. A very small amount of a terpene $C_{10}H_{16}$, or *asarene*. 2. The acetic ether of an alcohol isomeric with borneol, and which may be designated as *asarol*. This is present in two modifications, differing considerably in their boiling points and in their behavior toward polarized light. 3. Apparently a small amount of the valerianic ether of *asarol*. 4. An indifferent, neutral body of undetermined constitution, and having the empirical formula $C_{12}H_{18}O_2$. This body, from its analogy with helenin may properly be designated as *asarin*, but should then not be confounded with the so-called asarum-camphor or other indefinite bodies, which have received the same name. 5. A small amount of a deeply blue-colored oil, the so-called *azulene* or *cærulene*.—From the *Inaugural Thesis* of the author "*On the Constituents of Asarum Can.*," Strassburg, 1880.

Percentage of Tannin in Sumach-Leaves.—H. MACAGNO finds that the percentage of tannin in sumach-leaves decreases with age and growth, and that the upper part of the twigs contains more tannin than the lower. The amount of tannin between June 10th and August 11th was, on an average, 21.19% on the former, and 15.34% on the latter.—*Chem. News*, 1880, 63.

Patented Tooth-ache Remedy.—English Patent 2,923 of July 18th, 1879, grants protection to a remedy against toothache and neuralgia, composed of alcoholic extract of pellitory root, tincture of opium, spirit of camphor, and water.—We fail to see how such a compound, which has been in use for many years, in countless modifications, could receive a patent.

Emulsions.*—The author had made some forty experiments in the preparation of emulsions with the mucilages of tragacanth and acacia, and likewise with their powders. Previous experiments had proven that, where honey, yolk of egg, and almond-powder were recommended for special purposes, acacia or tragacanth answers equally well or better.

The conclusion arrived at was altogether in favor of *powdered acacia*, which should be of the best quality and almost white.

Mr. Gerrard prepared a castor-oil emulsion before the Conference with perfect success, and he then gave the following formulæ, urging strongly that the directions should be exactly followed, the liquids accurately measured in separate measures, mixed in a dry mortar, and no rule of thumb admitted.

Emulsion of Cod-liver Oil.

Cod-liver oil	4 ounces.†
Powdered acacia	1 ounce.
Essential oil of almonds	4 minims.
Syrup	1 "
Water	to 8 ounces.

Mix the gum with the oil, then place on the mixture two ounces of water, and stir until the emulsion is formed, then add the remainder: water, essence, and syrup.

Emulsion of Castor Oil.

Castor oil	4 drachms.
Powdered acacia	80 grains.
Essential oil of almonds	1 minim.
Simple syrup	2 drachms.
Water	to 2 ounces.

Mix the powder with the oil, then add two drachms of water, stir until the emulsion is formed, and add the remainder: water, syrup, and essence.

Emulsion of Turpentine Oil.

Oil of turpentine	4 drachms.
Powdered acacia	2 "
Syrup	2 "
Water	to 2 ounces.

Mix the powder with the oil, add one-half ounce of water, and stir until the emulsion is formed, then add the remainder of the syrup and water.

Oil of turpentine is considered one of the most troublesome bodies to emulsify; prepared by this form there is no difficulty.

Emulsion of Balsam Copaiba.

Balsam of copaiba	3 drachms.
Powdered acacia	3 "
Simple syrup	6 "
Water	to 6 ounces.

Mix the powder with the balsam, and add six drachms of water, stir until the emulsion is formed, then gradually add the remainder of the water and syrup.

Emulsion of Resin of Copaiba.

Resin of copaiba	2 drachms.
Alcohol	4 "
Powdered acacia	4 "
Water	to 6 ounces.

Dissolve the resin in the spirit, add the powdered gum, and mix well; add now an ounce of water, stirring until the emulsion is formed, and make up to six ounces with water.

Emulsion of Balsam of Peru.

Balsam of Peru	3 drachms.
Powdered acacia	2 "
Simple syrup	6 "
Water	to 6 ounces.

Rub the powder well with the balsam, add three drachms of water, and stir till the emulsion is perfect, then add the remaining water and syrup.

In emulsions containing resins or bodies heavier than water, there is generally a sediment formed; it is so with the two previous forms, but there is no aggregation into a hardened mass, and a slight shake of the bottle puts everything to rights again.

Emulsion of Chian Turpentine.

Chian turpentine	2 drachms.
Ether	4 "
Powdered acacia	2 "
Water	to 6 ounces.

Dissolve the turpentine in the ether, and filter, washing the filter with a drachm of ether, mix well with the gum and add one-half ounce of water, stirring till the emulsion is perfect, lastly add the remaining water.

During the discussion of this paper, Mr. Cottrell gave the formula of an emulsion which he prepared on a large scale, and which he said kept perfectly. It is formed by working together 24 eggs, 6 oz. mustard, and 2 lbs. crystallized brown sugar, until a crackling noise is heard; then 64 ounces of the finest oil (of whatever kind) are added, with 4 pints of vinegar, 3 oz. of Tarragon vinegar, and the necessary spices.—*Chem. and Drug.*

The Presence of Arsenic in Tincture and Solution of Chloride of Iron.*—The author enumerated several observations of the presence of arsenic as an impurity in pharmaceutical preparations, and to that list he said he had the melancholy satisfaction of contributing an addition. Having detected arsenic in samples of hydrochloric acid, many of which had been sold as pure, he thought that possibly a considerable portion of the solution of chloride of iron of pharmacy, prepared with similar acid, might contain arsenic. This had proved to be the case in samples of the liquor, and also of the tincture, which had been obtained from various eminent dispensing houses. In one instance, the proportion of 33.8 grains As_2O_3 in 100 fl. oz. of the liquor were detected. The other instances given showed 10, 12, and 13 grains per 100 fl. oz. of liquor.—*Chem. and Drug.*

Some of the Uses of Turpentine.—Dr. James Foulis mentions, in the Edinburgh *Medical Journal*, the following uses of turpentine that are not generally appreciated. In making post-mortem examinations, by coating the hands and arms with oil of turpentine, the risk of putrid infection is much diminished, and on washing afterwards with soap and water, all odor is completely removed. He accounts for this by a theory that, when the skin is unprotected, the epithelial layer of the skin absorbs the fatty and other fluids, the odor of which is given off for some time, in spite of frequent washing. His method is to rinse the hands thoroughly with the oil before commencing the examination. After the work is finished, the hands are to be scrubbed with turpentine, using a nail-brush, after which soap and hot water are to be employed: a pleasant terebene odor remains.

Dr. Foulis also uses oil of turpentine as a remedy for parasitic skin affections. He gives the following method pursued in several cases of ring-worm of the scalp. The head was held over a basin of hot soap-water, and oil of turpentine was then poured on each affected spot. When smarting began to be quite apparent, the head was well washed with the soap-water, rubbing in the soap. One application of the turpentine is usually sufficient to destroy the parasite.

Wheat-Flowers (so-called) as an Antiperiodic.—Dr. R. Reiche had his attention drawn by some non-professional person to the antiperiodic effects of the so-called flowers, or rather anthers, of the "winter-wheat" (*Triticum hibernum* L., or Siligo). These anthers (*Flores Siliginis*) are used in Hungary as an abortive, and are also said to act as a styptic in uterine hæmorrhages. Their taste is agreeably bitter, and is only developed by protracted chewing. It has no perceptible effects upon digestion, secretion, or the sensory nerves. It is effective in intermittent fever, and is administered in mild cases, three times daily, in a quantity sufficient to cover the point of a knife: in severe cases it is given every 2 hours. —*Arch. d. Pharm.* and *Ph. Z. f. Russl.*

* Abstract of a paper by A. W. Gerrard, read at the late Brit. Pharm. Conference.

† British weight, or avoirdupois, is meant.

* Abstract of a paper by F. W. Fletcher, read at the late British Pharm. Conference.

Recognition of Various Kinds of Wax.—Ed. Hirschsohn has examined the solubilities and other chemical behavior of the following kinds of wax:

1. Yellow wax, pure.
2. White wax, pure.
3. "African wax," from Martiny's collection, very similar to European bees'-wax, but softer and grayish-yellow.
4. "Orizaba wax, from the same collection, and labelled: "Obtained from Schaffner, who states that it is sold by the Indians. Seems to be a vegetable wax." Further examination showed this to be a Myrica-wax.
5. Japan wax; the ordinary commercial kind.
6. Wax of Myrica quercifolia; from Marting's collection; pale-green, moderately hard and easily pulverizable.
7. Wax of Myrica cerifera; from same collection; a little more dark and brittle than the preceding.
8. Wax of an undetermined species of Myrica. Resembles 7.
9. Bahia wax; from same collection; very hard, gray mass; on fresh fracture greenish.
10. Brazil wax; same source; bright yellowish, brittle and easily powdered.
11. Wax from Stick-lac; same source; chocolate-brown, brittle and easily powdered.
12. Carnauba wax; resembling No. 10.

On the basis of his experiments, the author gives the following scheme for their recognition:

Treat the wax in question with chloroform at ordinary temperature until the solution is either entirely clear or only opaque, then warm gently until the solution is clear; and allow to cool again.

I. *The chloroformic solution remains clear on cooling.*
   - A. Ether dissolves the wax completely.
     - a. Alcoholic solution of ferric chloride produces, in the alcoholic solution of the wax, a precipitate which does not disappear on heating. *Wax of Myrica quercifolia.*
     - b. Ferric chloride colors the solution black: *Wax of an undetermined species of Myrica* (No. 8).
     - c. Ferric chloride colors the solution brownish: *Wax of Myrica cerifera. Orizaba Wax.*
   - B. Ether dissolves only partially. The sample is saponified with 10 parts of alcoholic potassa solution, and the soap boiled in 100 parts of water.
     - a. The soap is completely soluble: *Japan wax.*
     - b. The soap is only partially soluble: *Bees'-wax. African wax.*

II. *The chloroformic solution becomes turbid on cooling.*
   - A. Alcoholic solution of acetate of lead soon produces cloudiness in the alcoholic solution of the wax: *Wax from Stick-lac.*
   - B. Alcoholic solution of acetate of lead produces no cloudiness.
     - a. The ethereal solution of the wax is made cloudy by alcohol: *Brazil and Carnauba wax.*
     - b. It remains clear: *Bahia Wax.*—After *Pharm. J. and Trans.*, March 20th.

Salicylate of Sodium Causing Impotence.—Dr. Dubrisay has observed that the administration of salicylate of sodium is frequently followed by impotence. In three cases this was complete, but only temporary, and was induced by a dose of 3 to 4 grams (45 to 60 grains) within 24 hours. This effect of the remedy has heretofore remained unnoticed, but should now be carefully watched. Besides, there seems to be a chance of experiencing its effects unknowingly, since many articles of food and drink, such as beer, wine, canned fruits, and vegetables, etc., are preserved with the aid of salicylic acid, or its sodium salt.—*Journ. d'Hygiène.*

Salicylate of Calcium in the Serous Diarrhœa of Infants.—A paper on this topic was presented by Dr. Alex. Hutchins, at the August meeting of the Kings Co. Med. Soc. The treatment, which is new, deserves trial during the season when these diseases are especially prevalent. author suggests the following extemporized formulæ:

1. ℞ Acidi salicylici .....part. 11.
   Cretæ præparatæ.....part. 4. Mix.

S. Three to five grains every 2, 3 or 4 hours. Each powder should be thoroughly mixed with a teaspoonful of sugar, a few drops of water being added until the powder and sugar are fully moistened, and then water added to render the mixture sufficiently thin to be swallowed. This precaution is needful, as the dry or imperfectly mixed powder is acrid.

2. ℞ Acidi salicylici .....gr. 30.
   Cretæ præparatæ.....gr. 10.
   Syrupi .....fl. ʒ 2.
   Aquæ.....q. s. ad fl. ʒ 2.

Mix and shake well. S. 2 teaspoonfuls (=5 grains of the mixed powders) every 2, 3 or 4 hours. The frequency of the dose is regulated by the frequency of the movements. —*Proceed. of Med. Society of Co. of Kings.*

[The author probably intended to have an excess of salicylic acid in the mixture. A neutral salicylate of calcium requires 256 parts of salicylic acid ($2\ HC_7H_5O_3$, or $2 \times 128 = 256$) and 100 parts of chalk or calcium carbonate ($CaCO_3$). Hence 4 parts of chalk require 10.24 parts of the acid (the original formula No. 1 directs 11 parts, while the second formula directs still more acid, in proportion); 10 grains of chalk require 25.6 grains of the acid. Compare below, p. 374.—Ed. N. R.]

Administration of Cod-Liver Oil to Children.—The following brief directions of Dr. Elw. Ellis are taken from his classical work on *Diseases of Children*, and deserve to be well remembered:

"The secret of giving cod-liver oil successfully is *not to give too much*, and to give it at the right time. Small quantities are best to begin with, a few drops for a very young child, ʒ ss.–ʒ i. for older ones, in orange-wine or a little weak nitro-muriatic acid in water, well sweetened. It should be given so as not to clash with meals, or soon after a meal; if before, it spoils the appetite. Bed-time is a good time, when it causes sickness; the child lying down immediately afterwards, it is usually well retained. When it causes diarrhœa, and often in rickets, I give it with equal parts of lime-water. A little iodide or phosphate of iron may be dissolved in it, or a little phosphorus, when the administration of that drug is desirable. As an external application to many obstinate forms of eczema capitis and other cutaneous diseases, I have found it extremely valuable. If necessary, it may be made into an ointment, as:

℞ Ol. morrhuæ..... ʒ ss.
Liquor. potassæ..... ʒ ss.
Adipis.....q. s.
Ft. unguentum. (Dr. Neligan).

When cod-liver oil cannot be tolerated, glycerin and cocoa-nut oil are the best substitutes. They should be given in doses of ʒ i.–ʒ ij. two or three times a day. I have tried the Dugong oil, but do not think that it possesses any special merit, nor yet the cod-liver oil emulsions, jellies, etc. I much prefer the plain oil. Some bear the light brown kinds well, others prefer the pale. Burgundy or claret make good vehicles for cod-liver oil, or it may be given sandwich-fashion in a little brandy and water at the bottom of the glass, then floating the oil, wetting the side of the glass with brandy and water, and finally pouring a little *rather* stronger over the top of the oil, will make it slip down tastelessly. Ice in the oil also renders it nearly tasteless. If the oil be thick from cold weather, it should be warmed and made clear before administration. As a rule, children get to *like* it without artificial means of any kind; I am, therefore, merely supplying hints for possible difficulties."

NOTES, QUERIES AND ANSWERS.

Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us, as come within the scope of this journal, provided they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue. Unless special instructions to the contrary accompany the query, the initials of the correspondent will be quoted at the head of each answer.

When asking for the formula of an unusual, patented, or proprietary compound, always accompany the query with any information you may already possess regarding the locality in which it is used, its use and reputed effects, in order to enable us to make inquiry without waste of time and labor. When it can conveniently be done, send also a specimen of the label used on packages of the compound.

No. 804.—**Poroused Plasters.**

A modest correspondent, who incloses a dollar, requests us to give him the "full processes for making rubber porous plasters, beginning with the kind of gum or rubber used; solvents; whether heat is used; how medicated, if with fluid, solid extracts, or powders; how is the gum applied to the cloth; how perforated; is time required to dry the plasters after they are spread before offering them for sale; if so, about how much; what is the cheapest solvent? Please answer by letter, and give us full particulars. We will pay any extra charges."

Surely, he flatters us by his apparently unlimited confidence in our wisdom. There are several firms in this country who have devoted some years of experience and thousands of dollars in solving the above questions, and are far better able than we are to satisfy the demands of this searcher for information. If any one of them is desirous of disposing of their knowledge on this subject for the sum of one dollar and "extra charges," we will gladly forward the dollar and the address of the queriest.

No. 805.—**Metal Tubes for Ointments** (A. E. A.).

We believe that you can obtain the tubes used for artist's colors of some of the large dealers in paints and artist's materials. Write to Wm. H. Schieffelin & Co., in this city. The following is the list of sizes and prices:

½×2	inches,	per gross,	$3.00	; by dozen,	30 cents.
⅜×3	"	"	3.30	"	35 "
⅜×4	"	"	3.60	"	40 "
½×4	"	"	5.40	"	60 "
1×4	"	"	9.25	"	$1.00
1×6	"	"	12.00	"	1.25

No. 806.—"**False Eucalyptus**" (A. S. Giddings, Texas).

The plant of which you send us a sample is pronounced to be *Nicotiana paniculata*, or some closely allied species, and, according to De Candolle, comes originally from Peru. There is no reason for believing that it possesses anti-malarial properties.

No. 807.—**Lindo's Reaction for Glucose** (S. H. W.).

If brucine is treated in the cold with nitric acid, an energetic reaction is set up, and water, nitric acid, oxalic acid, methyl nitrite, and a peculiar basic substance, known as kakoteline, are produced.

$$C_{23}H_{26}N_2O_4 + 5HNO_3 = 2H_2O + 2NO +$$
Brucine + Nitric Ac. = Water + Nitric Ox. +
$$+ C_2H_2O_4 + CH_3NO_2 + C_{20}H_{29}H_4O_9$$
+ Oxalic Ac. + Methyl Nitrite + Kakoteline.

When the reaction is terminated, which should, if necessary, be moderated by cold water, the product is diluted with water, and the kakoteline, thereby separated, is recrystallized from hot diluted nitric acid. This substance dissolved in solution of caustic soda or potassa, constitutes the reagent. On heating this in presence of glucose, the liquid turns at first yellow, and afterwards intensely blue. The nature of the reaction is not yet understood, nor are there any statistics as to the delicacy of the reaction, or the interference of other substances.

No. 808.—**Pill Excipients** (W. H. L.).

There is no single excipient or mixture which is suitable for all kinds of pills. Probably the "tragacanth excipient" is applicable in a greater number of cases than any other. This is made by thoroughly mixing ½ oz. of powdered tragacanth with 2¼ oz. each of water and glycerin; or by mixing 1 oz. of powdered tragacanth with 4 ounces of glycerin. On pills, pill-masses and excipients, see our February number (1880), pp. 47–50.

No. 809.—**Indian Cholagague** (C.).

In 1860, Dr. J. A. Mayes, of Mayesville, S. C., sent to the *Druggists' Circular*, p. 317, a communication, in which he stated that a mixture, closely resembling and probably identical with Osgood's Indian Cholagogue may be prepared after the following formula:

Sulphate of quinia	ʒ 2
Fl. ext. of leptandra	fl. ʒ 1
"Saturated tinct." of stillingia	fl. ʒ 4
Fl. ext. of podophyllum	fl. ʒ 3
Oil sassafras	gtt. 10
Oil wintergreen	gtt. 10
Molasses (best N. O.)	q. s. to ℥ 8

[The "saturated tincture" may be held to mean fluid extract.—ED. N. R.] This mixture is to be well shaken up, before a dose is measured out, so as to get the quinia salt equably mixed with the liquid. Dose for adults 1 to 3 teaspoonfuls 3 times daily, more or less, according to the circumstances of the case. For further information, Dr. Mayes refer to the *Southern Med. and Surg. Journal*, 1849, p. 376.

No. 810.—**Black Hair Dye** (L. K.).

A hair dye which consists of only *one* liquid for turning hair black is generally prepared, as you surmise in your letter, by a solution of nitrate of silver. Ammoniacal nitrate of silver may, of course, be used just as well as a simple solution of silver in water. But the addition of sulphate of copper is only of use if ammonia is present. It is necessary that the hair should be free from dirt or fatty matter. This is best accomplished by shampooing the hair with a weak potash-lye, or else with barley bran and water. A solution of ⅛ ounce of nitrate of silver in 1 pint of water, carefully applied with a pencil or small sponge, will, after drying, be found strong enough. It may, however, be made somewhat stronger.

Instead of using a silver solution, pyrogallic acid may be used · ¼ oz. of this dissolved in 1½ fl. oz. of hot water, and, after cooling, ½ fl. oz. of alcohol is added. If this is used in conjunction with a weak silver solution, the effect will be more decided.

No. 811.—"**30-Grain Vinegar**" (O. S).

This correspondent asks: Please inform me whether 30-grain vinegar is supposed to contain 3% of real acetic acid ($HC_2H_3O_2$).

"30-grain vinegar" in *England* means vinegar, one fluid ounce (*Brit.*) of which is neutralized by 30 grains of *pure dry* carbonate of *sodium*. And as sodium salts have a higher saturating power, weight for weight, than potassium salts, a "30-grain vinegar" tested with a sodium salt is stronger in real acid than a "30-grain vinegar" tested with a potassium salt. *In this country* it has become customary, in ordinary trade, to employ carbonate of potassium to test vinegar. This is unfortunate for several reasons. First, it establishes a different criterion from that used abroad, and also used in former times in this country, and, therefore, may cause erroneous impressions as to the strength of any sample, from a want of knowledge of this difference in test; and second, it introduces inaccuracies on account of the uncertainty of the percentage of water contained in the potassium salt.

The U. S. Pharm. states of pure carbonate of potassium, that it loses, at a red heat, 16% of its weight. This statement, together with the process of preparation there given, indicates that the intended salt has the composition: $(K_2CO_3)_2.3H_2O = 330$ 4; 100 parts of this salt contain

83.65 parts of dry carbonate of potassium (K_2CO_3) and 16.35 parts of water.

Now 1 molecule of real acetic acid requires for neutralization one-half of a molecule of K_2CO_3.

$$2HC_2H_3O_2 + K_2CO_3, \text{ or } HC_2H_3O_2 + \tfrac{1}{2}K_2CO_3$$
$$120 \qquad 138.2 \qquad 60 \qquad 69.1$$

that is, 60 grains of real acetic acid are neutralized by 69.1 grains of *dry* carbonate of potassium; while of the above *hydrated* salt 82.6 grains will be required.

In practice, the hydrated salt is generally used for testing vinegar. Now, since 30 grains of hydrated carbonate of potassium will saturate 21.8 grains of real acetic acid:

$$82.6 : 60 = 30 : x;\ x = 21\ 79 \text{ or } 21.8$$

it follows that a "30-grain vinegar" is one which contains 21.8 grains of real acetic acid in a fluid ounce. A simple equation will now give us the percentage, *in grains*, of real acid, in the vinegar by *measure*, that is, in 100 minims:

$$(1) \quad 480 : 21\ 8 = 100 . x$$
$$x = 4\ 54\% \textit{ by measure.}$$

To facilitate calculation, we may deduce a general formula, as follows. First, we have the proportion: as 82.6 grains of the potash salt is to [or neutralize] 60 grains of real acetic acid, so is the number of grains of the potash salt used for neutralizing 1 fl oz. of any vinegar, to the amount of real acid contained therein. Let us designate by N the "number" of grains of the potash salt required; then the proportion will be

$$82.6 : 60 = N : x$$
$$(2) \quad x = \frac{60.N}{82.6} = N \times 0.7264.$$

Therefore, *to find the amount in grains of real acetic acid in a fluid ounce of the vinegar, multiply the "number" (N) with* 0.7264.

In the above example we find: $30 \times 0.7274 = 21.8$ grains in 1 fl. ℥. Now if it is desired to calculate the percentage for weight, we encounter a slight difficulty. It is well known that vinegar varies in specific gravity between considerable limits, say, 1.008 and 1.020; hence, this must be taken in consideration. The weight of a fluid ounce of any liquid is found by the following proportion, where G denotes the specific gravity of the liquid:

$$1000 : G = 455.7 : x$$
$$(3)\ x = \frac{455.7 \times G}{1000} = G \times 0.4557$$

Taking now our first equation (No. 1) and substituting for the 480 minims the value in *grains*, obtained from equation (3), and for the second term the general value obtained in equation (2), we have:

$$G \times 0.4557 : N \times 0.7264 = 100 : x$$

which may be read: as the weight of a fluid ounce of the vinegar is to the number of grains of real acid it contains, so are 100 grains of the vinegar to x grains real acid. On solving we find:

$$x = \frac{N \times 0.7264 \times 100}{G \times 0.4557} = \frac{N \times 159\ 4}{G}$$

Or in words: *to find the percentage by weight in real acid of any sample of vinegar, multipy the "number" (N) by* 159 4 *and divide by the specific gravity.*

In our example above we obtain: 4.73% *by weight.* All this is based on the assumption that the potash salt is hydrated. If anhydrous carbonate of potassium is used the above two general formulæ will become:

I. $N \times 0.8686$ II. $\dfrac{N \times 190\ 6}{G}$

No. 812.—**Salicylic Acid Mixture Turning Black** (C. H. D.).

Our correspondent says: A few weeks ago I prepared the following prescription:

℞ Potassii bicarbonatis..... ʒ iij.
Acidi salicylici..... ʒ ij.
Aquæ fontanæ..... fl. ℥ ij.
M. Ft. sol.

In a few days the party brought it back as it had turned nearly black. I made it over again using extra precautions, but it was again returned after a few days of the same dark color. What is the cause of the change?

Whenever salicylic acid is brought or left in contact with an *excess* of an alkali, the mixture turns dark brown, verging to a sort of black. We do not know that any one has as yet ascertained the precise reason of this change of color, but such is the fact Manufacturers of salicylates have to exercise the greatest care to prevent the point of neutralization to be overstepped in the preparation of these salts. In fact, they prefer, in order to insure a white salt, to have a trifling excess of salicylic acid present.

Now in order that salicylic acid, in a mixture or combination with an alkali, may always be in excess, *the acid should never be added to a solution of the alkali*, but the alkaline solution should be added to the acid. The above prescription calls for 180 grains of bicarbonate of potassium and 120 grains of salicylic acid.

In order to produce a neutral salt, each 100 grains of bicarbonate of potassium require 138 grains of the acid for saturation:

$$HC_7H_5O_3 (= 138) + KHCO_3 (= 100) = KC_7H_5O_3 +$$
Salicylic acid + Bicarb. pot. = Salicylate pot. +
$$+ H_2O + CO_2$$
+ Water + Carb. acid

Hence, the prescription calls for a large excess of the alkaline salt. To *neutralize* the 120 grains of acid, only 87 grains of bicarbonate of potassium are required, and, in order to insure a slight excess of acid, it will be well to take only 86 or 84 grains.

Of course, you cannot alter the proportions yourself, but should inform the prescriber of the difficulty, and have him make the requisite changes.

No. 813.—**Syrup of Santonin** (R. G. D.).

As santonin is very little soluble in aqueous liquids, requiring 5,000 parts of cold and 250 of boiling water, nor very soluble in alcohol, of which it requires in the cold 42 parts, and as you want to get 2 grains of santonin into a fluid drachm, the best way will be if you convert the santonin into santonate of sodium, which requires only 3 parts of water for solution. The santonate of sodium may be prepared easily by the following method:

100 parts of santonin are introduced into a flask, and a freshly prepared solution of 13.2 parts of pure caustic soda (sodium hydrate) in 450 parts of water is added. The flask is heated for some time on the steam or water bath, until a clear solution results, after which the liquid is filtered, evaporated till a pellicle forms on the surface, and then set aside to crystallize. From the mother-water, the retained santonin may be recovered by precipitating it with hydrochloric acid. 120 parts of santonate of sodium correspond to 100 parts of santonin.

As to the advantages or disadvantages of santonin and the sodium salt, and as to their uses and *doses*, compare the dispensatories.

To prepare a syrup or elixir *representing* 2 grains of santonin to the fluid drachm, you will have to dissolve 307 grains of santonate of sodium in 1 pint of syrup or simple elixir.

No. 814.—**Analysis of Ink** (B. J.).

As an answer to your query, we believe we can do no better than to give you the method laid down in *Alf. H. Allen's Commercial Organic Analysis*, London, 1879, p. 296, which seems to contain all that is essential.

In analyzing ink, the total solid residue should be determined by evaporating 50 cc. to dryness on the water-bath. The residue thus obtained is first weighed and then ignited, the odor produced on heating being carefully noted; sugar or shellac may thus be detected. The weight of the ignited residue is then taken, after which it is fused in platinum with potassium chlorate and alkaline carbonate. The mass is extracted with hot water, filtered, and the solution acidulated with acetic acid. In presence of a chromate; the liquid will have a yellow color, and will give a chrome-yellow precipitate on adding a single drop of acetate of lead. This process may be applied quantitatively, if the lead solution be added in slight excess, and the precipitated $PbCrO_4$ be collected and weighed. The residue left on treating the fused mass with water should be boiled with hydrochloric acid, the liquid filtered and examined for iron, copper, alumi-

nium, etc., in the usual way. By precipitating the solution with a large excess of ammonia, the iron and aluminium may be roughly separated from the copper, which remains in solution, and communicates a blue color to the liquid.

For the detection of organic coloring matters, a portion of the ink should be strongly acidulated with hydrochloric acid. A blue color, unaffected by the acid, but destroyed on adding bromine water or bleaching powder, shows the presence of indigo. If Prussian blue be present, the ink will probably turn brown on addition of soda, and the filtered liquid will give a deep blue precipitate with ferric chloride, after being acidified with hydrochloric acid. A black color, not destroyed by acids or alkalies, nor bleached by bromine or chlorine, is pretty certain to be due to finely-divided carbon. An ink prepared with vanadate of ammonium and galls is turned blue by acids, but is unaffected by alkalies. Its color is altered, but not bleached by chlorine. Aniline black is not affected by alkalies, but is turned dark-green by acids; bleaching-powder renders it garnet-red. Logwood inks are turned red or yellow by hydrochloric acid, while those containing galls only are almost wholly decolorized by the same reagent.

Some inks have a great tendency to become mildewed; this may be prevented by a small addition of carbolic or salicylic acid.

The following table shows the general composition of black writing inks, and sufficiently indicates the substances to be sought for by the analyst:

	SUPERIOR INK.	INFERIOR INK.	INK CONTAINING VINEGAR.	LOGWOOD INK.	COPYING INK.	COPPER INK.	RUNGE'S CHROME INK.	COPYING INK.	INK POWDER.	STEPHEN'S BLUE-BLACK INK.
Galls	225	62	174	50	60	42	....	....	12	15
Logwood	....	....	....	100	21	20	140	4	....	....
Potassium chromate	....	....	....	....	....	....	1	....	....	....
Ferrous sulphate	75	31	87	16	20	21	....	3	4	5
Cupric sulphate	....	..	....	....	....	5	....	....	....	4 iron filings
Alum	....	....	....	....	....	....	....	2	....	....
Gum	25	31	43	47	20	16	....	3	2	....
Sugar	....	....	....	28	1000?	....	..	5	1	....
Vinegar	....	....	135	....	....	....	....	60	....	....
Water	1000	1000	1000	....	1000	1000	1000	70	....	200*

No. 815.—**Caramel** (W. S.).

The following is one of the processes given by technical authorities:

Dissolve 7 pounds crushed sugar in 1 pint of water, boil it in a 5-gallon copper kettle, stirring occasionally until it gets brown, then reduce the fire and let the sugar burn until the smoke "makes the eyes water." When a few drops, let fall into a tumbler of cold water, sink to the bottom and harden sufficiently to crack, it is done. Then pour on it, by degrees, about 2 quarts of warm water, stirring all the time. When well mixed, filter it hot through a coarse flannel filter. (Some use lime water to dissolve the burnt sugar.) Care must be taken not to overburn it, as a greater quantity is thereby rendered insoluble. The heat should not exceed 430° nor be under 400° F. The process for nice experiments is best conducted in a bath of melted tin, to which a little bismuth has been added to reduce its melting point to about 435°; a little powdered resin or charcoal or a little oil being put upon the surface of the metal to prevent oxidation.

* ½ indigo in 3 of sulphuric acid.

No. 816.—**Elixir of Berberina and of Cascara Sagrado** (H. G. H.).

It is not practicable to give working formulas for *all* kinds of elixirs, first, because the dose of an active ingredient, like berberina, may have to be varied for different purposes, and second, because elixirs representing vegetable drugs may generally be made with the fluid extract. We would therefore advise you to make elixir of "cascara sagrado" by adding such an amount of fluid extract to simple elixir as may be considered proper by the physician who is in the habit of using it. There is no standard strength of such preparations. Elixir of berberina may be made by dissolving this alkaloid (on which see the paper of J. U. Lloyd in *Proc. Amer. Pharm. Assoc*, 1878, p. 802) in simple elixir. The quantity to be dissolved must be determined by the physician.

Colors for Window Bottles.—A very beautiful *amethystine color* can be produced by dissolving 5 grains of salicylic acid in a little solution of ammonia, mixing this with enough water to fill the show-bottle. To this is added a few drops of solution of chloride of iron, and afterwards a few drops of muriatic acid.

Emerald green, of great beauty, can be produced by dissolving a few five-cent nickel pieces in equal parts of nitric acid and water, then diluting with sufficient water.—*Am. Journ. of Pharm.*

Elixir of Protochloride of Iron.—The following is offered by Mr. R. F. Fairthorne, as a substitute for "Rabuteaux's Elixir:"

Protochloride of iron	3 dr. 12 gr.
Glycerin	4 fl. oz.
White curaçoa	12 "
Syrup	4 "

Water, sufficient to make two pints.

Mix and filter.

Tincture of Insect Powder.—A concentrated tincture of insect powder is highly recommended as an insecticide by Finzelberg, who prepares it by digesting one part of Persian insect powder in ten parts absolute alcohol, and claims that, in order to prove efficacious, it should be scattered by means of an ordinary perfumery atomizer. When thus used in closed rooms, all flies soon drop dead; while scattering it over linen, etc., acts as a protection against fleas and other vermin.—*Scient. Am.*

NEW PATENTS.

[*Complete specifications and illustrations may be obtained of any one or more of the following patents by sending the number, title, name of patentee, and date of issue, with twenty cents for each copy, to the Commissioner of Patents, at Washington, D. C., together with the name and address of the person requesting the same.*]

August 31st, 1880.

231,678. *Bottle-Stopper.*—Edmund A. Parker, West Meriden, Ct.

231,679. *Lozenge-Cutting Machine.*—Philip H. Paxton, Camden, N. J.

231,682. *Composition for Flavoring Cigars.*—Henry K. Reiss, Greenville, Pa. Consists of New England rum, alcohol, oil of apple, Tonka bean, valerian root, and laudanum.

231,737. *Lactometer.*—George Tanner, Freetown, N. Y.

231,740. *Package for Mercury.*—Richard S. Williams, New York, N. Y. A device for containing mercury for dental purposes, or other substances, consisting of a strip of suitable material, having a series of cells formed therein, and of a ceiling covering for the cells, which is easily detachable from each cell independently of the other cells.

231,747. *Device for Administering Medicines, etc.*—George M. Arnold, New York, assignor to himself and Edward C. Miles, same place.

231,759. *Medical Compound.*—Frederick Champagne, Moriah, N. Y., assignor of two-thirds of his right to James S. Winslow and George W. Watkins, same place. Mixes one pint of honey or best molasses, two ounces of sweet spirits of nitre, two ounces of laudanum, one ounce oil of hemlock, one ounce oil of juniper, two ounces linseed oil, and thirty drops of peppermint as a remedy for diseases of the throat and lungs, also of the liver and kidneys.

231,840. *Apparatus for Treating Paraffin Oil.*—Herman Neahous, Sharpsburg, Pa.

231,841. *Acid-Siphon Pump.*—Ellen Augusta Nichols, administratrix of Francis Nichols, deceased, Walcott B. Mannaring, and Olin L. Livesey, of New London, Ct., assignors to Acid Pump and Siphon Co.

231,847. *Agitator for Soda-Water Receivers and Generators.*—Alvin D. Puffer, Boston, Mass.

231,858. *Process for the Manufacture of Cement.*—Ernest Solvay, Brussels, Belgium. Patented in England, February 25th, 1880. First, in the treatment of chloride of calcium by means of clay, preparing a soft silico-aluminate of lime, containing no injurious substances; secondly, adding lime in intimate admixture to the said soft silico-aluminate of lime.

131,860. *Manufacture of Chloride of Lime.*—Ernest Solvay, Brussels, Belgium. Patented in England, Feb. 25th, 1880. Forming hydrate of lime into small fragments or agglomerated morsels, by which the complete absorption of the chlorine is effected.

September 7th, 1880.

231,921. *Syrup-Tank for Soda-Water Dispensing Apparatus.*—John Matthews, New York, N. Y.

231,923. *Filtering Faucet.*—Wm. H. McDonald, Chicago, Ill.

231,960. *Paint.*—William H. Hooper, Baltimore, Md. A paint-block consisting of silica, ferric oxide, alumina, magnesia, tungstate of soda, pearlash, and water mixed with a suitable vehicle and encased in a saponaceous envelope.

232,002.—*Wagon for Gaseous Liquid Fountains.*—John Collins, Brooklyn, N. Y.

232,003. *Faucet for Dispensing Mineral Waters.*—John Collins, Brooklyn, N. Y.

232,071. *Process of Treating Spirituous Liquors.*—The process of treating spirituous liquors to produce the effect commonly known as "aging," by forcing through a body of the liquor common air charged with the fumes of quick-lime.

September 14th, 1880.

232,144. *Combined Cork Protector and Measuring Device for Bottles.*—Charles T. Pearson, New York, N. Y.

232,188. *Pad for Bottle-Stoppers.*—John F. King, Washington, D. C.

232,245. *Hydrostatic Scale.* Jules Deschamps, Paris, France. Patented in France, March 21st, 1880.

September 21st, 1880.

232,362. *Bottle-Stopper.*—Stephen S. Newton, Binghamton, N. Y.

232,380. *Faucet.*—Lewis W. Truesdell, Oswego, N. Y.

232,393. *Scale-Beam.*—Daniel W. Dake, Beloit, Wis.

232,404. *Bottle-Stopper.*—Henry C. Johnson, Meadville, Pa.

232,439. *Truss.*—Herman Becker, Philadelphia, Pa.

232,468. *Bottle and Stopper.*—John C. De La Vergne, New York, N. Y.

232,527. *Automatic Liquid Measure.*—Henry E. Marchand, Allegheny, Pa., assignor of one-half of his right to Wm. J. Beckfeld, same place.

September 28th, 1880.

232,613. *Bottle-Stopper.*—Purches Miles, Brooklyn, N. Y.

232,630. *Device for Drawing and Measuring Liquids.*—Silas W. Cox, New York, N. Y.

232,685. *Recovering Sulphuric Acid from Sludge Acid.*—Edward Clark, Brooklyn, N. Y.

232,695. *Insecticide-Pastile.*—Jacob B. Detwiller, Greenville, N. J.

232,709. *Faucet.*—John P. Gruber, Jersey City, N. J.

TRADE NOTES AND NOVELTIES.

[*Under this heading the Editors will notice such novelties in "Sundries," Apparatus, Preparations, etc., as may be brought to their attention. Samples, circulars, etc., should be accompanied with cuts, when possible, and addressed to the Editor of* NEW REMEDIES, *27 Great Jones Street, New York.*]

Weaver's Pliable Metal Envelopes, for which WM. H. BEECHER & Co., of 20 Vesey st., in this city, are the agents, are an ingenious combination of thin sheet-iron covered with manilla paper and intended for mailing

packages, or for the packing of friable goods. They are so made as to be easily opened for the inspection of their contents and at the same time are not liable to become unfastened in transit. They have had the approval of the postal authorities and are in every respect the most desirable articles of the kind that we have seen.

The forms and sizes in which these packages are made,

are adapted to a great variety of contents, from card photographs to vials. A letter addressed to the agent will secure a price list which will supply detailed information.

JOHN WYETH AND BROTHER, of Philadelphia, have added to their line of compressed tablets those of **Salicylate of Cinchonidia**, 2½ grains each. By referring to preceding numbers of NEW REMEDIES, it will be seen that there appears to be a disposition on the part of physicians to make use of this combination, which was suggested by Mr. F. H. Rosengarten. Several trials which have been made in Philadelphia hospitals have demonstrated its usefulness, to a degree rather unexpected, in neuralgia and rheumatism. The tablets are nicely made, of firm consistence, and show no disposition to crumble from attrition. Their taste is somewhat less bitter than that of the sulphate.

C. L. MITCHELL, M.D., of Philadelphia, who has for some time manufactured gelatin bougies for nasal, urethral, uterine, and rectal medication, has just introduced a simple apparatus for inserting intra-uterine pencils. The stylet (B) having been inserted in the tube (A)

to its full extent, the instrument is introduced in the manner of a uterine sound, after which the stylet is withdrawn, the intra-uterine suppository is placed in the tube and, with the aid of the stylet, is crowded into the cervix. The instrument is nicely made and will greatly aid the use of suppositories when a speculum is not employed.

EASTMAN & BRO., of Philadelphia, perfumers and manufacturers of pure toilet soaps, send us a sample of "**Pure Palm-Oil Soap**" in the form of an elongated, flattened cylinder, 1½x2x4½ inches in size, of light-brown color and delicately perfumed.

The form of the cake is better adapted for the bath and for use in business offices than those usually employed. The alkali is well combined with the fatty base, as shown by the fact that a sample wrapped in absorbent paper, and laid in a warm place for a fortnight, imparted no greasy stain to its envelope. It makes a good lather.

Lime Fruit Juice.—In answering query 765 on page 282 of our September issue, we unintentionally made statements which were somewhat erroneous. The Martinique Lime Juice Company, of Montreal, seem to have adopted the name of the island not so much for the reason that limes are grown there (as it appears they are not in any considerable quantity), but because it was a convenient name for their purpose. While we have no occasion to doubt the excellence of the product supplied by the firm referred to, we were, perhaps, wrong in referring to it exclusively, and we now take pleasure in saying that we have have had opportunities for examining the lime fruit juice, and the "Limetta Cordial" sold by H. Sugden, Evans & Co., also of Montreal, and agent for the "Montserrat Company (Limited)" and find the former to be an excellent quality of this valuable product, and the latter, a very agreeable beverage.

Messrs. Evans & Co. have also kindly furnished us with an interesting account of Montserrat: its climate, products, and especially of its lime-fruit plantations, from which we learn that the company had, in 1875, between 500 and 600 acres of ground already bearing productive lime-trees, and that more were being steadily added. As in the case of the lime-fruit juice before referred to, that of the Montserrat Company is expressed from fresh fruit and the precaution is taken, moreover, to express only about two-thirds of the juice, thus insuring its preservation without the aid of alcohol.

"**Naudin's Tooth Powder,**" prepared by F. NAUDIN, 181 William street, New York, is a well-prepared, nicely flavored preparation, mildly alkaline, delicately flavored, and handsomely put up in turned wood boxes varnished.

The packages are intended to retail for 50c., and being both good and handsome, there is little doubt that they will readily do so.

Henry's Carbolized Extract of Witch Hazel and Arnica is offered by JOHN F. HENRY & CO., of 24 College place, New York, as a remedy for external use, combining the therapeutical proportion of its three ingredients.

The "Rye and Rock Cough-Drops" made by JOHN N. GERARD, of 148 William street, are an agreeably flavored confection in which an envelope of gum and sugar contains in a cavity in its interior a small quantity of spirituous liquid.

A new addition to the list of "restorative remedies" is **Powell's Combined Beef, Cod-Liver Oil, and Pepsin,** made by the POWELL MANUFACTURING CO., of Baltimore, Md. It is put up in flat, panelled bottles, and each tablespoonful is guaranteed to contain, in addition to the oil, the equivalent of a half-ounce of beef and five grains of pepsin.

About a year ago we noticed among our items the manufacture of **corks from wood in California.** We have lately seen a sample of bottle-stopper which is being manufactured in Michigan, and which appears to be capable, to some extent, of replacing the stoppers of cork-bark that are now so generally used. The wood from which they are made appears to have been subjected to some process whereby it has been deprived of its resinous matter, leaving the woody-fibre which is elastic and easily compressible to nearly the same degree as cork-bark. But one objection appears to us at present to exist, that is the fact that the pores of the material run lengthwise, thus permitting the passage of air in small quantities unless the stopper is subjected to considerable lateral pressure. It may be that the employment of wax or resin on the upper extremity, so as to close the openings of those minute channels, will obviate the difficulty, in which case these wooden stoppers are likely to replace cork bark for many purposes in which economy is essential.

Elixir of Pycnanthemum (linifolium).—MR. CHARLES MOHR, of Mobile, Ala., some years ago made a chemical analysis of the above labiate plant, which is reported at full in the *Proceed. of the Amer. Pharm. Assoc.* for 1876. Besides volatile oil, such as is present in all the members of this family, and besides the usual constituents found in plants, it was ascertained to contain a peculiar tannin, distinct from caffeo-tannic acid, acting as a mild astringent upon the mucous membrane; and a soft, bitter, slightly acid resin, possessing tonic and stimulating properties and exciting the secretion. As a remedy in *atonic dyspepsia* it has been very favorably reported upon by the medical profession, and in order to supply a liquid preparation of standard strength, Mr. Mohr has prepared from it, and put on the market an elixir. Experiments made two years ago, in Bellevue Hospital, with a liquid preparation of the drug, also made by Mr. Mohr, gave very favorable results.

Tasteless Cod-liver Oil.—DR. PEUTEVES, in *La France Médicale*, recommends, in order to render cod-liver oil tasteless, to mix a tablespoonful of it intimately with the yolk of an egg, add a few drops of essence of peppermint, and a half a tumbler of sugared water, so as to obtain a *lait du poule*. By this means, the taste and characteristic odor of the oil are entirely covered, and the patients take it without the slightest repugnance. Besides, the oil being thus rendered miscible as the water in all its proportions, is in as complete state of emulsion as the fats at the moments they penetrate the chyle vessels, consequently absorption is better assured.

BIBLIOGRAPHY.

QUALITATIVE CHEMICAL ANALYSIS: A Guide in the Practical Study of Chemistry, and in the Work of Analysis. By SILAS H. DOUGLAS, M.A., M.D. and ALBERT B. PRESCOTT, M.D., F.C.S. Third Edition, wholly revised. With a study of Oxidation and Reduction by OTIS COE JOHNSON, M.A., pp. 305, 8vo. New York: D. Van Nostrand, Publisher, 23 Murray and 27 Warren Street. (Retail price, $3.50.)

THIS new edition of the well-known work still bears on its face the title of Profs. Douglas and Prescott; but we believe that the name of the first-mentioned author has been allowed to remain only by courtesy, as we have reason to know that the revision and recasting of this edition has been performed by Prof. Prescott alone. Among the treatises on Qualitative Analysis it occupies a place and rank of its own, not because it offers many new methods of analysis not resorted to by other authors, but because it presents the essential facts which are required to obtain a thorough knowledge of the special reactions of bodies in a peculiarly practical style, illustrating the subject from all sides, showing how the presence of other bodies may modify special reactions, and particularly by accompanying its statements, whenever practicable or necessary, with the corresponding symbolic equations, thereby impressing the processes more firmly upon the mind of the student. The language which the authors use also deviates in some respects from that employed in other standard text-books; and we think that, in this feature alone, they have taken an important step in advance; namely, it is well known to those who have studied practical chemistry, that the language employed in laboratories for expressing technical matters, is not always identical with that employed in written text-books; in fact, that the *spoken* language, being conversational, is much more abbreviated and condensed than the written. Thus we *read* in ordinary text-books of "precipitates from the metals of the second group;" the authors call this "second group precipitates," which is the common way of calling it in laboratories, and so in many other instances. The selection of various styles of type, to separate the more essential parts from that which is of minor importance, and the clear heavy-face type employed to emphasize important reactions, afford a great assistance to the eye to find the desired information without loss of time.

THE MEDICAL RECORD VISITING LIST OR PHYSICIAN'S DIARY FOR 1881. New York: William Wood & Co. THIS popular and comprehensive list is now published, and in addition to the usual blanks for recording memoranda of visits, special engagements, vaccinations, deaths, addresses, cash accounts, etc., has letter-press relating to the metric system, thermometric equivalents, an almanac, table for estimating the probable duration of pregnancy, doses of drugs used hypodermically, a posological table, drugs suited for atomization, inhalation, etc., dentition, disinfection, analysis of urine, poisons and antitodes, medical and surgical facts, Lister's antiseptic materials, and treatment of asphyxia.

LOCHMAN'S BOTANICAL PHOTOGRAPHS. C. L. Lochman, Bethlehem, Pa.

A FURTHER instalment of these beautiful and extremely useful plates has reached us, which fully sustain the reputation and appreciation so justly merited by Mr. Lochman (see above, p. 117). The new plates comprise: *Anthemis nobilis* L., *Aspidium marginale* Swartz, *Colchicum autumnale* L. (in fruit), *Cornus sericea* L., *Dioscorea villosa* L., *Drosera rotundifolia* L., *Erigeron canadense* L., *Goodyera pubescens* R. B., *Hypericum perforatum* L., *Mentha piperita* L., *Mentha rotundifolia* L., *Mentha viridis* L., *Nicotiana tabacum* L.

REPORT ON THE CONDITION OF CROPS, Aug. 1st, 1880. Department of Agriculture; Special Report No. 25.

NOTES ON INDIAN DRUGS. By W. DYMOCK. Reprinted from the *Pharmaceutical Journal*. From the author.

LETTER OF THE COMMISSIONER OF AGRICULTURE to the HON. J. W. JOHNSTON, Chairman of the Committee on Agriculture, U. S. Senate, on SORGHUM SUGAR. 8vo, Washington, 1880, pp. 42, with 33 plates.

PHARMACOPŒIA OF THE NEW YORK DISPENSARY, pp. 12.

ON THE CONSTITUENTS OF THE RHIZOME OF ASARUM CANADENSE L.—Inaugural Dissertation. By FREDERICK B. POWER, of Hudson, N. Y., Assistant at the Laboratory of the Pharmaceutical Institute. 8vo, Strassburg, 1880, pp. 42, and 2 plates. From the author.

ENTWURF DES STATUTS FÜR DEN DEUTSCHEN APOTHEKER-VEREIN. Ausgearbeitet von der dazu berufenen Commission des Deutschen Apotheker-Vereins. 8vo, Halle, 1880.
(Draft of the Constitution and By-laws of the German Pharmaceutical Association.)

DR. THEODOR SCHUCHARDT. Chemische Fabrik Price-list for the Summer Season of 1880. 8vo, Görlitz, pp. 76.

FROM this catalogue we quote the following interesting collections:

1. *Collection of Metals.* 64 preparations, containing 48 metals, fused and in powder, including boron, silicium, tellurium, etc. Price 60 marks.

2. *Collection of Preparations*, containing representatives of all elements so far discovered. Price, *m.* 150 to 300.

3. *Collection of* 16 *Fluorescent Solutions:* In 2 cases, *m.* 22.50.

4. *Collection of* 7 (*or* 16) *Different Phosphorescent Substances*, *m.* 15 (or 38).

5. *Collection of Alkaloids:* 36 and 52 preparations in large vials, *m.* 76 and 90.—20, 40, and 60 preparations in small vials, *m.* 28, 48, and 65.

6. *Physiological Collection:* 80 preparations from the animal kingdom, *m.* 50.—80 preparations from the vegetable kingdom, *m.* 50.

7. *Collection of Coal-tar Colors*, with colored fabrics, and description. 68 samples, *m.* 50.

8. *Collection of* 64 *Elements*, in fused glass tubes, in 3 sizes (quantities up to 50 gm.), in case, *m.* 250.

NEW YORK STATE PHARMACEUTICAL ASSOCIATION, Proceedings of the Second Annual Meeting, held in Syracuse, May 19th–20th, 1880. Also the Constitution, By-laws, Proposed Pharmacy Law, and Roll of Members.

PREIS-VERZEICHNISS ÜBER CHEMISCHE APPARATE UND GERÄTHSCHAFTEN VON GEBRÜDER MUENCKE. Berlin, Luisenstrasse, 58. 8vo, Berlin, 1879.
N. B.—The firm-name has since been altered, and is now DR. ROBERT MUENCKE.

PREIS-VERZEICHNISS über Waagen von constanter Empfindlichkeit für wissenschaftliche und technische Zwecke von A. VERBEEK and PECKHOLDT, Dresden, Germ.
Price List of Balances of constant sensitiveness, etc., made by A. Verbeek and Peckholdt.

REMARKS ON PEPSINE. By J. S. HAWLEY, A.M., M.D. 12mo, Brooklyn, 1880, pp. 40.

BEITRÆGE ZUR KENNTNISS DER ALOE. Von CARL TREUMANN. Dorpat: 1880, 8vo, pp. 78.

VERGLEICHENDE UNTERSUCHUNGEN EINIGER CATECHU UND GAMBIER-PROBEN, nebst kritischer Beleuchtung der Methoden zur Bestimmung ihres Handelswerthes. Von ADOLF LEHMANN. Dorpat: 1880, 8vo, pp. 68.

FLETCHER'S LABORATORY APPARATUS. Manufactured by the Buffalo Dental Manufacturing Co., Buffalo, N. Y.
WE have in various preceding issues given illustrations and descriptions of some of this apparatus.

CORRESPONDENCE.

PROPRIETARY RIGHTS IN PRESCRIPTIONS.

EDITOR OF NEW REMEDIES:

In your editorial of November, the ground you take is so nearly like what I have been in the habit of doing for years that I take the liberty to inclose a copy of my prescription blanks.*

The "conditions," as you term them, under which I make prescriptions, are placed conspicuously at the top, as you can see by the blank I send. Of course those conditions are frequently violated by the druggist, but they protect me from the consequences of such acts, and the principles of the physician's proprietorship is clearly stated.

If each physician would insist upon *their blanks having a like or similar notice to patients and druggists printed upon them, that act alone would give it the force of custom, and thereby almost, if not quite that, of law.* If I went to a druggist and demanded all the prescriptions of mine that he had filled, I should expect that he would, if he chose, keep copies of them; having been a druggist (before studying medicine) I know the difficulties under which they are often placed, both with physicians and patients, and framed my "conditions" accordingly. As it is a question that will not be quiet, suppose you print the formula of "conditions," so that both druggists and physicians can see whether it works hardship to either party.

Whenever I do wish a patient to retain the recipe in his own hands I write that fact across the face of it, and then the druggist keeps a copy if he chooses.

C. AMBROOK.

BOULDER, COL., Nov. 9th, 1880.

CORRECTION.

We are informed by Mr. R. W. Gardner, the author of the formulæ for elixirs, published on page 310 of our October number that there is still another error to be corrected, for which the editors are not to blame, namely, in *Formula* 39. *Elixir Taraxaci Co.*, where the quantities of fluid extract of gentian and of fluid extract of wild cherry should be interchanged thus: Fl. ext. gentian, 384 ♏; Fl. ext. wild cherry, 6 ℥ 192 ♏.

MR. C. A. HEINITSH, of Lancaster, Pa., whose formula for **Emulsion of Castor Oil** was published on page 349, writes that the amount of aquæ menthæ viridis should have been ℥ iij. instead of ʒ iij., the typographical error having occurred in the Transactions of the Pennsylvania Pharmaceutical Association, from which we copied it.

ITEMS.

College of Pharmacy of the City of New York.—At the regular quarterly meeting of the College, held on Thursday, October 21st, the following gentlemen were elected Corresponding Members: D. Carlos Mallaina, of Madrid, Prof. Alphonso Herrera, M.D., of Mexico, D. Ramon Codina Länglin, of Barcelona, Prof. Eustathios Poniropoulos, of Athens, and Prof. George C. Post, M.D., of Beirout.

Mr. Charles Rice exhibited at this meeting specimens of the whole fruit and seeds of *Strychnos Ignatii* Bergius, which had just been received from a correspondent in the Philippine Islands. No specimen of this fruit exists in any museum in this country or Europe, excepting a very old one in the British Museum. Some of the seeds when first received were quite fresh-looking, and they were certainly possessed of vitality before shipment, but, whether plants can be raised from them or not, is now doubtful. At least an attempt will be made, and, if unsuccessful, new specimens may be obtained.

The collection of California medicinal plants lately contributed to the College by Mr. James G. Steele, of San Francisco, comprises specimens of: Ava-ava root; Balsam plant (*Gnaphalium macrocephalum*); Bitter Weed (*Helenium puberolum*); Eucalyptus; California Buckthorn (*Rhamnus crocea*); Butterfly Plant (*Bahia arachnoidea*); Cascara Sagrada (*Rhamnus Purshiana*); Cedron seeds (*Simaba Cedron*); Coca leaves; Damiana; Fly plant (*Mimulus glutinosus*); Ginger leaf (*Eremocarpus setigerus*); Yerba Santa (*Eriodictyon glutinosum*); Kidney Root (*Baccharis pilularis*); Manzanita (*Arctostaphylus glauca*); Oak Balls (from *Quercus lobata*); Oak Bark (from *Quercus densifolia*); Oregon Grape (*Berberis aquifolium*); *Berberis repens; Grindelia glutinosa, G. integrifolia, G. squarrosa, G. robusta;* Spikenard (*Aralia Californica*); Tar weed (*Hemizonia truncata*); Wild Sunflower or Turpentine Root (*Wyethia helenoides*); Yerba Buena (*Micromeria Douglassii*); Yerba Reuma (*Frankenia grandifolia*), etc.

German Pharmacopœial Revision.—The Commission at present in session at Berlin, and charged by the Prussian government with the revision of the *Pharmacopœa Germanica*, consists of thirty members, five (Messrs. Houselle, Kersandt, Reinhardt, Kerschensteiner, and Koch) are medical officials; six (Messrs. Binz, Eulenburg, Flückiger, Gaehtgens, Husemann, and Rossbach) are pharmaeologists; six (Messrs. von Fehling, Hilger, Otto, Poleck, Reichardt, and Jaffé) are chemists, the last being a professor of Medical Chemistry; seven (Messrs. Fräntzel, von Gerhard, Jurgensen, Nothnagel, Salzer, Volkmann, and von Ziemssen) are clinical physicians, and six (Messrs. Brunnengräber, Dugend, Jassey, Schacht, Wimmel, and Wolfrum) are pharmacists. Besides these, the Prussian War Office has deputized two military physicians to attend the sittings. Dr. Schmidt, professor of pharmacy at Halle, is acting as Secretary of the Commission.

Pitchblende (Uranium-Ore) in Colorado.—Some three years ago, an intelligent mineralogist discovered specimens of pitchblende on the waste-dumps of Denver City, Colorado, and, recognizing the value of the mineral, gathered a quantity and sent it to Swansea, where it brought five shillings a pound, or at the rate of $2,500 a ton. To what extent the mineral occurs in that region does not appear, but the incident affords another illustration of the facility with which unscientific miners may throw away minerals of more value than those they are looking for.

Pitchblende is an oxide of uranium, obtained in Saxony and Bohemia, and used in fine glass making. Glass colored with uranium has the peculiar property of showing green when looked at, although perfectly and purely yellow when looked through.

A College of Pharmacy in North Carolina.—The physicians and druggists of North Carolina have, through their conventions, asked the Legislature of that State to provide a Pharmaceutical School for the education of those seeking to become druggists. The Trustees and Faculty of the University of North Carolina, wishing to aid in the reform, have established at Chapel Hill a College of Pharmacy in which the course of study will include lectures on Botany, by Prof. F. Simonds, Ph.D.; on General Analytical and Applied Chemistry, by Prof. F. Venable, late of Bonn University; on Materia Medica and Pharmacy, by Dr. T. M. Harris.

In Chemistry, there will be three lessons a week and six hours of laboratory work.

In Materia Medica and Pharmacy, there will be two to three lessons a week and abundant practical work.

A course of lectures will be given on the physiological action of medicines and their safe doses; and poisons and their antidotes.

* "The druggist will retain this prescription, subject to Dr. Ambrook's orders, neither repeating it nor giving copies, but refer the patient to the doctor. The writing of a prescription is for the convenience of the physician, to save him giving verbal directions to the druggist, and gives the patient no proprietary rights in it whatever."

The term of study will include two sessions of five months each. At the end of each session a written examination will be held, the final examination being in May. These examinations are intended to be thorough and rigid, and not merely nominal. A student who passes with approval will be entitled to a diploma as a graduate in Pharmacy, but this will be withheld until he presents evidence that he has had four years of practical experience in Pharmacy; receiving, meantime, a certificate of graduation. The College course is included in the term of four years referred to.—*N. C. Med. Journ.*

Dr. Rudolph Wagner, Professor of Technological Chemistry at the University at Würzburg, whose "Handbook of Chemical Technology" has been translated into English, and whose Annual Reports on the Progress of Technology are an indispensable work in every library, died suddenly on the 5th of October.

Cream of Tartar in California.—The manufacture of this product from native argols has been commenced in California, but, owing to the disinclination of wine makers to clean their casks before refilling them with new wine, the supply of argols is found to be yet insufficient to meet the demands of the works.

Covering the Taste of Bromides.—According to the *Canadian Medical Journal*, this may be accomplished by giving three times as much simple syrup as there may be of the bromide. The result is said to be an agreeable, nutty flavor, not unlike that of cocoanut-milk.

M. Torchon, of Paris, whose death was announced last month, was the head of one of the largest "specialty" houses in Europe. They are the proprietors of Belloc's Charcoal, Clertan's perles, Goudron de Guyot, etc., and were the largest advertisers abroad. The tariff of 50% imposed by the Government of the United States of America on proprietary remedies prevented the extensive introduction of their wares into this country, but the South American market has for many years been largely supplied by them.

Antimony in California.—Mr. Boushey, the owner of the Californian antimony mine, has recently returned home from Paris, in company with an experienced French chemist, for the purpose of beginning a rational working of the mine. Regarding the latter, Mr. Boushey relates that eighty years ago some Jesuit priests, in what is now Kern County, in the southern part of California, discovered the mine which he now owns. They were skilful miners, and argued from the presence of the antimony that gold and silver would be found beneath it. They cared nothing for the antimony, but mined diligently for gold, forcing the Indians to work for them. These red miners on three occasions, the legend is, rebelled and killed all the monks in the convent. Finally the mine was abandoned, and the convent itself was no longer tenanted. There are yet old tunnels in the lower part of the mountain.

"An old Spaniard once came to us," said Mr. Boushey, "and claimed the mine. He said the Jesuits had given it to him, and that the deed would be found at the further end of a 500-foot tunnel. We told him to go and find the deed, but he has never been able to find even the 500-foot tunnel. We don't care anything about the deed, however, because we hold directly from the United States by patent, and are guaranteed against all claims. The mine is thirty-five miles south of Bakersfield, near Summer Station, on the Southern Pacific Railroad. Between the head waters of the San Emedio and the Pleito Cañons there is a mountain face which for four miles consists of granite and porphyry covered with fertile earth and heavily timbered with pine. The ledges of granite and porphyry run parallel with the face of the mountain and slant with it, at an angle of nearly forty-five degrees. The antimony is found in a true fissure, of which there are only three other instances in the world. There is one in Freiberg, one in Chili, and one in Mexico. This fissure is the result of the upheaval of what may be called one end of the mountain, or of the depression of its centre. It strikes directly through the mountain at right angles with the granite and prophyry ledges. The ores with which it is filled were thrust up into it from below. At the top it is from thirty to one hundred feet wide, but it widens as it descends. The fissure has been traced across the top of the mountain 5,000 feet and antimony has been found at every point. This ore is found above and the heavier ores below."

William E. Gee, of this city, long known as an extensive manufacturer of apparatus for carbonated beverages, at the corner of Centre and White streets, is recently deceased.

Purity of Italian Sulphate of Quinine.—Towards the end of last year reports were circulated in Italy that the sulphate of quinine manufactured by the *Societa Farmaceutica Romana* (Peretti Amici e Co., Rome, Via del Gesu, 63-66) was put on the market in an impure condition. As soon as these rumors reached the firm, they demanded an investigation at the hands of the Government sanitary authorities, and also enlisted the services of prominent chemists and practitioners to test their quinine both chemically and physiologically. The result of all these examinations has been that the imputation of fraud has been entirely removed from the firm, their product being found quite pure, and in general corresponding to the composition $2Qu,SO_4.7H_2O$, which is one-half of a molecule of water less than is met with in the average commerical sulphate of quinine.

China's Export and Import Trade.—From the lately published *Report of the Imperial Chinese Customs*, we find that the comparative exports and imports in 1877, 1878, and 1879, of substances interesting for the drug trade, have been as follows (in Haikuan Taels*):

a. Exports.	1877	1878	1879
Cassia,	309,945	336,217	579.494
Musk,	145,405	246,865	258,424
Rhubarb,	199,781	198,248	202,646
Safflower,	158,290	160,497	152,907
Tea, black,	17,257,883	19,418,757	22,596,481
" green,	4,432,121	4,507,047	4,498,992
" brick,	1,759,028	1,354,267	1,392,616
b. Imports.			
Opium,	30,257,812	32,262,957	36,536,617

PHARMACEUTICAL CALENDAR.—Dec.

N. B.—The officers of Societies, Colleges of Pharmacy, Pharm. Associations, etc., will oblige us by forwarding schedules of their meetings, lists of officers, and any changes that may be desirable.

Date.	Society Meetings.
Thurs. 2d.	N. Y. Coll. Ph.—Trustees' Meet.
	Phila. Coll. Pharm.—Alumni Meet.
	Louisville Coll. Ph.—Pharm. Meet.
	Massach. Coll. Pharm.—Stated Meet.
	" " " .—Trust. Meet.
Mon. 6th.	Erie County Ph. Ass.—Monthly Meet.
Tues. 7th.	Phila. Coll. Ph.—Trust. Meet.
Wed. 8th.	Cincinnati Coll. Ph.—Pharm. Meet.
Thurs. 9th.	Newark Pharm. Assoc.—Monthly Meet.
	N. Y. Germ. Apoth. Soc.—Monthly Meet.
	Louisville Coll. Ph.—Directors' Meet.
	Maryland Coll. Ph.—Meeting.
Tues. 14th.	St. Louis Coll. Pharm.—Pharm. Meet.
	National Coll. Ph.—Trust. Meet.
	Massach. Coll. Pharm.—Pharm. Meet.
	Kings Co. Pharm. Soc.—Monthly Meet.
Thurs. 16th.	Pittsburgh Coll. Ph.—Trust. Meet.
Tues. 21st.	New York Coll. Pharm.—Convers. Meet.
	St. Louis Coll. Pharm.—Trust. Meet.
	" " " .—Alumni Meet.
Mon. 27th.	Phila. Coll. Ph.—Pharm. Meet.
	" " ".—Stated Meet.

* Hai-kuan, or Government Tael, is equal to 1.4292785 dollars, or nearly $1.43.

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